UNIVERSITY OF
EXETER

Title:

An Exploration of the Presence and Promotion of Metacognitive Skills in Lecturers' Teaching Practices from Lecturers' and Undergraduate Students' Perspectives in the Faculty of Education at a University in Saudi Arabia

Submitted by

Badiah Nasser M Alnasib

To the University of Exeter as a thesis for the degree of Doctor of Philosophy in Education, September 2017

Signature of the candidate ………………………………………………………

Abstract

Many studies evidence the importance of metacognition in successful learning. Metacognitive skills improve the academic outcomes of learners. Additionally, metacognitive skills build lifelong learning skills, which are transferable to employment and other contexts. As such, developing metacognition in students is of great value to universities as society as a whole.

This study explores the perceptions of lecturers and student teachers in a College of Education at a University in the Kingdom of Saudi Arabia (KSA) regarding the presence and promotion of metacognitive skills at the University in which the study took place. The study spanned three departments in the College, namely Kindergarten, Special Education, and Art Education.

The study employs an interpretive research approach and case study methodology to gather this rich understanding of lecturers' and students' perceptions. Data were collected from twelve lecturers and twelve undergraduate students through a combination of lecture room observations, semi-structured interviews, and group interviews.

The most significant finding emerging from this study is the lack of lecturer participants' knowledge regarding metacognition generally. My study found that skills such as planning, monitoring, and evaluating skills were sometimes present in their teaching, but were not used to engage students in thinking metacognitively or developing their own metacognitive abilities. I found that metacognition was not present consistently or intentionally in lecture rooms.

The findings further exposed some obstacles which could inhibit the promotion of metacognition in higher education in KSA. For example, traditional methods of rote learning were shown to discourage metacognitive thinking. Large student numbers and lecturers' lack of time could prohibit lecturers from investing in teaching metacognitive skills to their students. Students' apathy towards anything other than memorising facts to pass examinations and acquire grades could also demotivate them to learn valuable skills like metacognition without comprehensive changes to educational norms.

The study identified multiple ways in which metacognition could be promoted in higher education in KSA. For example, diversifying teaching practices to include more active learning methods such as discussion and questioning would be more effective than the current prevalent method of lecturing and learning by memorising. Lecturers could role-model metacognitive skills to their students by incorporating metacognition into their own practice, and thus incorporate it into existing courses. Students could be motivated to develop metacognitive skills by discovering the benefits to them of metacognition on both their academic success and their future careers.

The study's findings supported the importance of including metacognition in higher education and advocating it to students as a valuable skill. Thus, there is a need to establish mechanisms or frameworks for integrating metacognition into higher education in KSA, and communities of practice which support the development of metacognitive skills among lecturers and student teachers who will be the teachers of tomorrow. I therefore offer a model with recommendations for practical uptake to expedite this, and support it with this study's evidence.

Dedication

I dedicate this thesis to my late Father and my Mother,
whose steadfast encourage and reassurance has made this work possible.

My sincere gratitude goes to my brothers (Mohammed, Ahmed, Bader) and sisters (Abeer, Fatima, Badria, Huda, Soad, Munira). Without their support, encouragement, patience, and prayers, this work would not have been achieved.

Acknowledgement

In the Name of Allah, the Most Gracious, the Most Merciful,

My greatest thanks to God for providing me the inspiration, time and ability to complete this thesis.

I would like to express my appreciation to my country, the Kingdom of Saudi Arabia that gave me the opportunity to study in the United Kingdom.

A special appreciation and thanks go to my mother, Aeshah bin Khamis, for her prayers, patience and encouragement and my brothers, sisters, nephews, and nieces for their continued support and encouragement throughout my period of study.

I wish to express my sincere gratitude from the bottom of my heart to my first supervisor Dr. Shirley Larkin for her professional and emotional support, guidance, and encouragement throughout the journey of my thesis. Special thanks also go to my second supervisor Dr. Andrew Richards for his professional and constructive feedback. The academic support from both of them was invaluable for each chapter in this thesis. They guided me throughout the writing of this thesis and, without their support, this thesis would not have been achieved and well organised.

I would like to extend my gratitude to everyone who has encouraged and support me in my study, including my closest friend Hala Alotaibi and my Ph.D. colleagues for their time, advice and experience. I am grateful to all the study participants for their time and willingness to participate and share their perspectives regarding the issue under investigation.

Finally, my deepest gratitude goes to my brother Ahmed for his support, encouragement, and companionship in most of my study period in the UK; and to my brothers Mohammed and Bader who each provided invaluable help during this stage.

Table of Contents

List of Tables

List of Figures

List of Abbreviations/Acronyms

Abbreviations/Acronyms	What does it stand for?
(AERA)	American Educational Research Association
(BERA)	British Educational Research Association
(CL)	Cooperative Learning
(COE)	College of Education
(DQAD)	'Development and Quality Assurance Deanship'
(GPA)	Grade Point Average
(HE)	Higher Education
(KSA)	Kingdom of Saudi Arabia
(MC)	Metacognition
(MOE)	Ministry of Education
(MOHE)	Ministry of Higher Education
(MS)	Metacognitive skills
(NCAAA)	National Commission for Academic Accreditation and Assessment
(OAAA)	Oman Academic Accreditation Authority
(PUC)	Private Universities Council
(SRA)	Social Researcher Associations

1 Chapter One: Introduction

1.1 Introduction

Evidence from many studies suggests the critical role of metacognition in successful learning (e.g., Abdolhosseini, Keikhavani & Hasel, 2011; Butterfield, 2012; Cornford, 2002; Coutinho, 2007; Hacker, 1998; Livingston, 2003; Memnun, 2013; Oz, 2015; Sandi-Urena, Cooper & Stevens, 2011; Schraw, 1998; Veenman, Van Hout-Wolters & Afflerbach, 2006). Metacognition refers to "one's knowledge and control of one's own cognitive system" (Brown, 1987, p. 66) or, thinking about one's thinking. Scholars interested in metacognition agree that metacognition is made up of two components: knowledge of cognition or metacognitive knowledge, and regulation of cognition or metacognitive skilfulness (Brown, 1987; Butterfield, 2012; Fathima, Sasikumar & Roja, 2014; Livingston, 2003; Oz, 2015; Schraw, 1998; Schraw & Moshman, 1995; Sungur & Senler, 2009; Zohar & Ben-David, 2009). Each of these components has its power in enhancing the learning process. Metacognitive skills in particular have a positive impact on the skill of problem-solving and on the academic achievements of learners (Desoete, 2008; Zohar & Ben David, 2009). In this regard, Graham (1997) maintains that central to the enhancement of learning are the metacognitive skills that enable learners to plan, monitor and evaluate their acquisition of knowledge. Not only that, but developing students' metacognitive skills are seen as essential for building their lifelong learning skills (Alci & Karatas, 2011), skills which have been in high demand in recent times (Horsburgh, 1999). For example, higher education institutions have been under increasing pressure from funding authorities and employers demanding that they enhance the development of lifelong skills for students (McMahon & Luca, 2001). Helping students to become skilful at utilising metacognitive skills is an essential step on the way to achieving this ultimate goal.

According to Amzil, (2014), De Backer, Van Keer and Valcke (2012), Wilson and Bai (2010), students, especially in higher education need to acquire more than just content knowledge to be successful in learning. Rather they need to learn and find out how they think, and learn how to understand their thinking, or how to be metacognitive and lifelong learners.

However, it has been noticed that the majority of students in higher education lack metacognition, whether metacognitive knowledge or metacognitive skills (De Backer et al., 2012; Niefeld, Cao, & Osborne, 2005). Rahman, Yasin, Ariffin, Hayati, and Yusoff (2010) argue that metacognitive skills are still a component of very few curricula even though its significance in learning has been widely identified. They further argued that the majority of educators overlook the ways we learn something, in favour of what is being learnt. It has been suggested by O'Malley and Chamot (1990) that students who lack an introduction to metacognition cannot actively approach their own learning, track their development or assess their performance; this means that they cannot identify how improvements can be made.

Therefore, there is a necessity for metacognition to be part of classroom activities and to be part of the students' education. Garrett, Alman, Gardner, and Born (2007) suggest that unless learners' shortcomings pertaining to their metacognitive thinking are identified and addressed, those who lack such metacognitive skills will not be able to improve them independently. Even if we agree that learners have those skills, we cannot be sure that they will be able to implement them. In this regard, Wen (2003), cited in Ismail and Tawalbeh (2015), contends that learners are not clear about the nature of metacognitive skills and are also unable to apply them. McCormick, Dimmitt, and Sullivan (2013) highlight further questions regarding this issue, i.e., how do students improve the metacognitive skills and knowledge pertinent to academic success within and across learning fields? What assists students to use the skills they own? And how to teach these skills efficiently and effectively?

Thus, metacognition and metacognitive skills need to be taught to students in general and higher education students in particular. In a similar vein, Everson and Tobias (1998) argued that students who apply metacognitive skills in their learning are more likely to be successful in college.

In what follows, my personal interest in this area and motivation to carry out this study are presented.

1.2 Professional Concern

In this section, I reflect on my previous professional experience as a high school teacher, teaching assistant, then as a researcher analysing educational models in home economics education programmes to examine whether these support and develop teacher competencies, and then as a lecturer at a university in Saudi Arabia, and how that led to my interest in this research. I moved from working in schools to research and higher education because I wanted to study and continue my professional development. So, I taught, for example, theoretical and practical modules related to the preparation of home economics teachers, such as the Production and Use of Learning Aids module, which seeks to provide students with skills and knowledge related to teaching and learning aids. I also taught the practical aspect of the Teaching Methods module, in which students make two visits to schools and do non-participant observation. They then write a report about each visit explaining the teaching phases, the teachers' and students' actions, and the interaction between them. A discussion and dialogue with the whole class takes place after the observations. Additionally, each student is required to choose a lesson, prepare a written plan for it, and then present it in 15 minutes through a micro-teaching situation. The students' classmates and I evaluated their teaching performance and the written plan.

I also supervised student teachers undertaking the Field Training module, in which student teachers train in a school for one semester. In this module in particular, I noticed that most student teachers lack the ability to transfer the knowledge and skills that they have learned about various teaching processes into the real teaching context. Also, from my teaching experience, I noticed that students have the ability to answer recall and memorisation questions more easily than questions that require thinking. It seems that university students lack the ability to transfer the knowledge or skills they have learned in one context to another. Moreover, they lack the ability to think, rethink and reflect on their thinking: they lack metacognition. Consequently, I participated in a general debate, which revealed dissatisfaction among some faculty members in the university regarding students' thinking skills. This discussion led me to reflect on the teaching practices that my colleagues and I usually apply. I developed the view that lecturers' teaching methods, my own included, seem to be far from

promoting students' thinking skills, including metacognition in general and metacognitive skills in particular.

One may argue that some metacognitive skills exist in lecturers' teaching practice; however, according to Alshammari (2015), metacognitive skills are not properly implemented. Conducting this study seems imperative in order to explore whether or not university lecturers' teaching practices enhance students' metacognitive skills. I believe it is unfair to judge students regarding this matter if we do not help them to acquire or activate these skills. In this regard, Alhagbani and Riazi (2012) point out that educators can help learners to utilise 'self-regulation' strategies, which can be exemplified by evaluative and metacognitive skills that can enhance learners' academic performance. This belief formed part of the rationale for the study's inquiry.

As part of a higher education context, and part of students' leaning experience, I was interested in investigating metacognition in Saudi Higher Education. I chose to focus on lecturers because this has a link to my professional position, being a lecturer in the same University. Thus, I attempted to explore lecturers' teaching practices, and to find out if they help students to acquire metacognition/metacognitive skills. I saw that addressing this is important, especially as students' metacognitive abilities are influenced by teachers and the material and teaching methods they apply, and that metacognition/metacognitive skills contribute to the construction of effective lifelong learners.

Moreover, I recognised the perennial need to reflect on and develop our teaching practices to establish an adequate guide for good teaching. Consequently, I was sent by the university to become a specialist in curriculum and pedagogy, and enrolled on a course at the University of Exeter. While there, my familiarity with new initiatives in Saudi higher education (see Study Context, section 1.6.3) and conversations with colleagues still in Saudi Arabia informed me of reforms taking place, for example the introduction of quality assurance deanships and investments in improving quality of teaching and learning through workshops and seminars. Some were presented by specialists from the UK and US and also other Arab countries, and some by the university's staff. This encouraged me that there would be data to collect for this

research, whereby I might find some change or improvement in the quality of teaching compared with how it had been while I was working there.

Meanwhile, I had some concerns that the government and the university's initiatives to improve the quality of teaching and learning in higher education might not be fruitful. One reason for this concern related to the fact that some of these initiatives tend to be pure theory but do not touch the real situation. For example, the university lecturers had introduced a variety of active teaching methods that could enhance the quality of teaching. However, due to the large number of students and the design and facilities of lecture rooms, the lecturers might not be able to utilise the new methods. Furthermore, there is a problem about the number of staff in relation to the number of students. Each year the Saudi universities accept large numbers of students who are supposed to complete their study in four or five years, without considering the low number of lecturers employed. This fact has an influence on some aspects such as the application of active and innovative teaching methods and the type of exams, due to lecturers being over-stretched. They therefore focus more on lecturing curriculum content and apply only objective questions in covering the content, as they think large student numbers, compounded by administrative and supervision duties, preclude other teaching methods. But asking students factual questions does not improve their thinking skills.

Another reason for my concerns, was that I noted that the quality criteria might not be entirely considered. For example, according to the National Commission for Academic Assessment and Accreditation, the number of students enrolled in a module should be 40. However, I observed that the number of students of most courses that I attended ranges between 65-70 students. Moreover, some lecturers might not be interested in these instructional initiatives. Some might be comfortable with their teaching approach, thus they perceive these changes as extra work and effort. Accordingly, they would ignore it, especially as it is not common to carry out classrooms observations in the Saudi higher education context. Instead, a part of lecturers' evaluation depends mostly on reports that they provide. Although students are required to evaluate each course, they study, I was concerned that some might not feel comfortable providing constructive criticism or negative feedback as they might fear the lecturer marking them down in retaliation. I was therefore concerned that this lack of

observation, use of lecturer self-evaluation, and possible lack of honest feedback from students all disincentivise lecturers from applying these initiatives.

Moreover, I observed that some lecturers were motivated for students to master the given project because of a requirement that lecturers attach examples of their students' work as evidence of the course's outcome. This made me questioned if lecturers were aware of the purpose of the country's instructional initiatives or were only interested in conforming to requirements and motivated by, at worst, fear of losing their jobs.

In contrast, some other lecturers might have enthusiasm for change. However, they might face some frustration. For example, they attend workshops and seminars, which seem to fail in helping them to improve their teaching because they were theoretical in nature and did not provide practical examples or cases related to their area of specialisation. They have not been trained in how to translate theory to practice, and I was concerned that their failures would demotivate them.

Furthermore, each term, lecturers receive feedback from an academic evaluation group in the university. However, through conversations with some of my colleagues, I learnt that some of the feedback they received was just critical and did not offer constructive practical suggestions for improving their professional performance. My concern was that this would further demotivate them and hamper their ability to implement initiatives and improvements.

Further concerns related to how much lecturers could be allowed to criticise the instructional decisions or whether these criticisms would be considered. For example, some of my colleagues said that they were interested in new reforms, however, later they become frustrated, explaining that the authorities in the university might not welcome their point of view. They felt that the university would be resistant to anything that might negatively influence the university's reputation and accreditation. Thus, they might not permit honest criticism of the current shortcomings, or bring in new ideas because of a fear these would make the university look bad. I was concerned that because of this resistance to criticism, things would remain as flawed as they were. This all motivated me to

pursue the research and find data that might lead to enhancing the quality of student outcomes at my university.

The following section introduces the study objectives. It explains the statement of the problem, and the significance of the study, as well as a brief look at the study context. Finally, an overview of the thesis structure is put forward.

1.3 Study Aims

1. To investigate lecturers' understanding of metacognition at the College of Education (COE).
2. To explore college lecturers' and undergraduate students' perspectives about whether and how lecturers at the COE practise or promote metacognitive skills in their classroom teaching.
3. To highlight the perceived impediments to promoting and applying metacognitive skills in the university setting from the perceptions of both lecturers and students.
4. To highlight the possible efforts that can be made to incorporate and foster metacognition clearly and effectively in the context of higher education (HE) in Saudi Arabia.

1.4 Statement of Problem

Recently, there have been notable responses by governments and higher education institutions to demands of funding authorities and the labour market worldwide, including the Arab Gulf States that have taken initiatives in this regard. According to Jalil and Ziq (2009), different Arab Gulf countries have established quality assurance systems to enhance "excellence in higher education" (p. 6) and to meet international and local demands for quality education. For instance, in 2001, Kuwait created the Private Universities Council (PUC), which handles matters related to higher education such as the criteria that private academic institutions need to meet (Private Universities Council, 2016). In 2010, the Omani government also developed the Oman Academic Accreditation Authority (OAAA). The main purpose of this new

organisation was to ensure that Omani higher education adheres to 'international standards' and to facilitate the continuity of development of higher education there (Oman Academic Accreditation Authority, 2016). Despite such promising efforts, metacognition does not seem to be a primary concern in these organisations (Jalil & Ziq, 2009). In this regard, Jalil and Ziq (2009) contend that the improvement of cognitive and metacognitive thinking and their relationship with ''people's development and the wealth of the country'' (p. 6) are not addressed adequately or clearly by these quality assurance systems.

As the Kingdom of Saudi Arabia (KSA) is seeking to develop academically at all levels, it too has taken these demands into account and has formed the National Commission for Academic Accreditation and Assessment (NCAAA) in 2004. This organisation aims to improve the quality of higher education by providing transparent codified standards for academic performance (National Commission for Academic Accreditation and Assessment, 2016). However, a closer look at the Saudi quality assurance system in that respect reveals that there is little indication of metacognitive skills. This argument matches that of Jalil and Ziq's (2009) the attention dedicated to improving cognitive and metacognitive skills and strategies is not as strong as the emphasis awarded to other quality characteristics. I will provide further discussion of the NCAAA later in this chapter in section 1.6.3.1.

KSA has made further efforts to meet international and local demands and to overcome international and domestic criticism directed at its educational system. Smith and Abouammoh (2013) point out that such views were mainly critical of the content of Saudi Arabia's curricula and the didactic methodology employed in learning environments. Smith and Abouammoh (2013) hold that attaining high quality teaching standards is one of the main challenges universities in KSA face. This is in line with the report of the World Bank (2007) cited in Allamnakhrah (2013) in which different international organisations concluded that higher education in KSA needs to raise Saudi students' knowledge and skill levels to be equal to their counterparts, and to improve the educational outcomes of its graduates to enable them to succeed in the workplace.

Moreover, the Saudi educational system has been a subject of criticism by some Saudi scholars such as Elyas and Alsadi (2013), who criticise the educational system for its lack of development of it's quality and critical thinking. They attribute this to the educational system that focuses more on repetition and drills based on rote learning. This perception matches Yusuff's (2015) argument that students in the Middle East, including in KSA, have historically focused on rote learning and recalling memorised facts.

In light of this, the Saudi government has taken this criticism into consideration and launched two large-scale projects in 2006, 'Tatweer' and 'Afaq', to develop the educational process and outcomes in the public educational stages and higher education. The 'Afaq' project concerns higher education and will be elaborated on later in this chapter (see section 1.6.3.2). Training students in strategies that develop their thinking skills is one of the primary goals of both projects; however, pre-service teacher education programmes have been given little attention in both projects compared to in-service teachers (Allamnakhrah, 2013). I believe that pre-service teacher training/education programmes need to be the focus of any developmental initiatives/reforms as they are the graduate teachers of the future. Furthermore, there is no indication that metacognition has been considered in those programmes (i.e. Afaq project).

However, in recent years, interest in metacognition has increased in KSA. This could be attributed to notions that learning should be a lifelong process and that learners need to acquire thinking skills that enable them to solve problems and to apply such skills in real-life situations by making sense of their own thinking processes, knowledge acquisition and techniques for dealing with difficulties (Georghiades, 2004). Moreover, this interest is in line with the international demands for developing metacognitive skills and the directives of the Ministry of Education (MOE) in Saudi Arabia (Yacoub, 2016). Accordingly, metacognition is now being investigated in Saudi Arabia's schools and university contexts.

This interest in metacognition in KSA has taken the form of, among other things, research studies focused on measuring or assessing the level of metacognition among students (Abu-Latifa, 2015; Al-Zoubi, 2013; Yusuff, 2015). Other studies have provided training programmes or teaching strategies to promote students' metacognitive skills (Al-Harthy, 2008; Faris, 2006; Ismail & Tawalbeh, 2015). In

addition to research conducted to examine the effectiveness of utilising metacognitive strategies in developing reading skills (Alahmmady, 2012) or academic achievement and trend studies (Alshammari, 2015), the relationship between metacognition and intelligence has been investigated (Shahrouri, 2014). Despite the diversity of the objectives of these studies, their primary focus was students. Other research which has taken into account teachers as well as students has been in schools rather than universities, and has not focussed on teacher practices but rather on perceptions (Alzahrani, 2017a; Alzahrani, 2017b). From my search of the literature, no studies in Saudi Arabia have investigated educators' teaching practices regarding the promotion of students' metacognitive skills in higher education contexts or even in schools. This last point has, in particular, formed the rationale for conducting this inquiry. Therefore, there is a necessity to explore the actual teaching practices in university lecture rooms and to find out whether lecturers' teaching practices enhance the development of students' metacognitive skills and how.

I believe that pre-service teacher training programmes need to consider developing students' metacognition and metacognitive skills. On a related note, Doganay and Demir (2011) argue that metacognitive skills enable prospective teachers to both self-manage as learners and also to teach these skills to their own students. Zohar (1999) states that it is necessary to address the issue of metacognitive skills in the courses that prepare teachers to educate others about higher-order thinking. Thus, since metacognition in teacher education is a critical matter (Wen, 2012), the College of Education and teacher training institutes should guide and train their students in all dimensions of thinking, including metacognition so that graduate teachers can pass their metacognitive knowledge, experiences and skills on to their students.

1.5 Significance of Study

The potential areas of significance of this study are as follows:

1. Making metacognition in general and metacognitive skills in particular known to university lecturers could contribute to the revision and development of their teaching practices. It may provide them with explicit

and clear guidelines on how to direct their students to be metacognitive learners.

2. Legislators and decision-makers at the university in which the study took place could be provided with baseline information about the nature of actual teaching practices in the university lecture rooms. The findings might draw their attention to the importance of emphasising the integration of metacognition into all aspects of the curriculum design.

3. Exploring whether or not metacognition takes place in university lecture rooms would provide suggestions regarding the application and development of students' metacognitive skills.

4. Better understanding of the relationship between lecturers' teaching practices and the development of students' awareness and skill of metacognition;

5. Filling the gap in the literature and proposing further research with a similar focus; and

6. Providing a distinctive perspective regarding metacognition in the Arabian Gulf to add to the already existing body of international literature.

1.6 Study Context

To provide a contextual framework for the current study, this section firstly presents background information on Saudi society, explaining the role that the Islamic religion plays in forming Saudi culture and giving it its unique nature. This will give a better understanding of how and to what extent such skills as those under study may be included into the Saudi education system (Allamnakhrah, 2013). This is followed by a brief description of the Saudi education system, highlighting its noteworthy features that are influenced by Islamic beliefs and practices. This section then sheds further light on some initiatives that have been taken by the government and some higher education institutions to improve the quality of HE. Highlighting these educational efforts might provide us with a better understanding of to what extent and how thinking including metacognition can be incorporated into the higher education system in KSA. A brief overview of the College of Education, which constitutes the current study community, is also provided. This brief information will hopefully help the

reader to understand the context in which the participants teach or learn, and interact.

1.6.1 Background Information on Saudi Society

Saudi Arabia is a strongly Muslim-majority country, so Saudi Muslims share amongst themselves a high level of cultural homogeneity; this includes factors such as the Arabic language and individuals' commitment to Islam (Alfahadi, 2012; Al-Seghayer, 2011; Gahwaji, 2006). Islam is a core element in people's lives, and shapes Saudi Arabia's constitution and its civil and penal codes (Simpson, 2002). This is in line with Ayubi's (2005) argument that Islam is a social religion, interested in organising the practices of social life. Therefore, Saudi Arabia pays considerable efforts to maintain the local Saudi traditions and sociocultural norms of Islamic values and regulations (Alfahadi, 2012).

A similar argument was made by Oyaid (2009), who asserted the critical role that Islam plays in covering all aspects of people's lives. He further highlighted the value of education in Islam, claiming that the Islamic religion focuses particularly on education and considers education a religious duty for each Muslim, whether male or female. The primary source of information for Saudi Islamic culture is the Holy Quran, which does emphasise thinking and reflection (Faqeehi, 2006, Simpson, 2002). This implies the necessity of promoting and applying thinking skills including metacognition within education in KSA.

In a similar manner, Alwasal and Alhadlaq (2012) put forward that the importance of education and the acquisition of knowledge in the KSA may be attributed to the Islamic belief that learning is a fundamental duty for all Muslims, and thus Muslims should learn all knowledge that humans need, additionally to acquire various sources of information that would lead to the improvement of the social community (Alfahadi, 2012). Therefore, KSA as an Islamic country formed its educational policies, teachers' beliefs and school organisation principles in light of these underlying conditions (Alghamdi & Alsalouli, 2013): Islamic religion, Arabic language and Saudi culture. Evidence of this can be found in the Education Policy article 28 of the Ministry of Education (MOE) (1976), which requires:

> … Understanding Islam correctly and completely, implanting and spreading the Islamic doctrine, providing students with Islamic values and instructions, acquiring knowledge along with different skills, developing constructive behavioral tendencies: advancing society economically, socially, culturally, and qualifying members in order to become useful in the construction of their society (MOE, 1976, cited in Rajab, 2016, p. 3).

As such, if metacognition is to be incorporated into education reform in Saudi Arabia, it will be necessary for it to be seen as consistent with Islamic culture.

1.6.2 Educational System in Saudi Arabia

According to Smith and Abouammoh (2013), the Saudi educational system is characterised by several distinctive features: national funding, hence, education is free for students at all levels in KSA; the general policy of gender segregation; and a centralised system of control and educational support. As this study is on the presence and promotion of metacognition in KSA, it is necessary to understand the dynamics of this context in overview.

Concerning state funding, in KSA education is free for all students enrolling in public schools and public universities (Alwasal & Alhadlaq, 2012). Furthermore, to encourage students to join higher education institutions, the Saudi government pays a monthly stipend for undergraduate and postgraduate students (Al-Jadidi, 2012). However, not all student graduates of secondary schools are capable of joining public universities as the universities are not able to offer places for all graduates because of their large number (Al-Jadidi, 2012). Therefore, students are accepted to universities based on their scores in tests "prepared by the National Centre for Assessment in Higher Education" (Al-Jadidi, 2012, p. 29) and their marks in the final examinations for the Secondary School Certificate (Oyiad, 2009). Adequate training in metacognitive skills, however, could equip graduates with valuable and employable skills for life.

Gender segregation is another characteristic of the Saudi education system. In KSA, the education system at all levels entails gender separation with some exceptions (Alfahadi, 2012; Alwasal & Alhadlaq, 2012). This is further defined by Smith and Abouammoh (2013), who argue that Saudi policy on education

sets out a segregation standard for all schools, apart from in the early stages of learning, in private institutions and on medical training courses.

Gender segregation includes segregation in buildings as well as teaching staff (Oyaid, 2009). However, in universities, male staff might teach female students "through the use of closed circuits (televised lectures)" (Alshuaifan, 2009, p. 17). Indeed, gender segregation reflects Islamic values as well as the country's culture. In this regard, Al-Jadidi (2012) suggested that the separate education policy aims at avoiding the perceived negative and undesirable consequences that may arguably happen in "co-education beyond the age of seven" (p. 26), according to the country's cultural beliefs and traditions. Gender segregation enforces separate buildings, but not curricula, though, which means that the presence of metacognitive skills could be promoted to both male and female students.

Centralisation is one of the characteristics that defines the Saudi education system. The government controls the education policies and systems in the country. Thus, the textbooks and curriculum syllabus are uniform throughout the country (Oyaid, 2009), particularly at the school level. According to Oyaid (2009), two leading agencies control the education system in KSA: the Ministry of Education and the Ministry of Higher Education (MOHE).

The issue of centralisation might be attributed to funding matters, as Saudi public universities are fully funded and operated by the government. Further, Al-Eisa and Smith (2013) highlight that the government provides buildings, resources and funding for the majority of Saudi schools and universities. Due to this reliance of the KSA education system on the government, the government is highly influential in how schools and universities are run. This means that if the government does not promote metacognition, metacognition is unlikely to be present in the education system. However, if the government accepted the value of metacognition, metacognition would be easily promoted throughout the education system in KSA due to the system's centralised and tightly controlled nature.

Furthermore, private universities in Saudi Arabia are also subject to government control and regulation. The MOHE is responsible for authorising the establishment of private universities based on "a set of policy guidelines

regarding the establishment, operation and licensing of private higher education institutions" (Al-Eisa & Smith, 2013, p. 29). In KSA, the system of centralisation in HE could be justified regarding ensuring goal achievement and the quality of the universities' outputs. In this context, Al-Eisa and Smith (2013) argued that the stated rationale for this level of government oversight is to assure quality outputs and diversified programmes that meet the needs of the labour market and are commensurate with the technical and scientific advancement objectives of the kingdom.

However, Al-Eisa and Smith (2013) express the belief that, currently, this centralisation and the direct control that the MOHE has over all aspects of university education and administration might no longer be appropriate to meet the range of the significant challenges facing KSA and universities. This may mean that looser control of the education system could remove barriers to the promotion of metacognition in KSA.

Indeed, as mentioned earlier in this chapter, the Saudi education system has been subject to sustained national and international criticism concerning the quality of its education system and has faced considerable international and national pressure to reform in recent years (Elyas & Picard, 2010; Smith & Abouammoh, 2013). The criticisms are attached to all educational phases, in particular higher level education, with Saudi university graduates classified as incapable of competing in the global economy (Elyas & Picard, 2010) due to their inability to think critically and logically; their lack of fluency in articulating their ideas; and their inability to properly associate theory with application (Almubirik, 2007). Hence, the Fourth Conference of Teacher Preparation (2011) conducted by the College of Education at the University of Umm Al-Qura in KSA recommended developing students' problem-solving and critical-thinking skills as well as training them to have adequate communication skills (Saudi Press Agency, 2011).

According to Allamnakhrah (2013), these criticisms have become more acute, especially after it was noted that Saudi universities are declining in international rankings compared to other universities. This is in line with Mazi and Altbach (2013) claim that low Webometric rankings in 2006 for Saudi universities raised

concerns about quality for the government, parents, students, and across Saudi society generally.

Therefore, the Saudi government recognised the necessity to reform its education system in schools as well as in higher education. On this note, Mazi and Altbach (2013) suggest that this surge in government rankings for universities means that the state must examine the quality of the infrastructure it is providing and the teaching environment it is creating, particularly with regard to staff, technology and research facilities. I suggest that incorporating metacognitive skills in these reforms will create the type of life-long learners required by these reforms.

In what follows, I present some governmental and higher education institutions' efforts that have been made to improve the quality of learning and teaching in Saudi universities.

1.6.3 Governmental Initiatives to Reform Saudi Higher Education

According to Smith and Abouammoh (2013), the Saudi government has acknowledged, in both practice and policy, the need to improve its university system to international standards. Therefore, the Saudi government has funded and supported several initiatives and projects that have been directed by the MOHE to improve the quality of education and enhance the efficiency of public and private universities (Mazi & Altbach, 2013) such as the 'NCAAA' organisation and 'Afaq' Plan that I referred to earlier in this chapter.

1.6.3.1 The National Commission for Academic Accreditation and Assessment (NCAAA)

Alwasal and Alhadlaq (2012) outline that the establishment of the National Commission for Academic Assessment and Accreditation (NCAAA) clearly indicates the move towards higher quality in HE in KSA. The NCAAA organisation, aimed to sponsor an academic and quality accreditation centre, develop innovation and excellence, academic syllabi, and faculty professional development (Ministry of Higher Education, 2010).

To ensure the success of this organisation, attempts have been made to take advantage of international expertise while preserving the Saudi community's identity (Albagmi, 2015; Darandari et al., 2009). From 2005 to 2008, the NCAAA devised a new "quality assurance and accreditation system" that comprises three phases and standards covering 11 areas divided into five broad domains (Darandari et al., 2009, p. 39). The second and third of these domains are, respectively, improving the quality of learning and teaching, and supporting students' learning (Darandari et al., 2009). According to NCAAA (2007), the qualifications framework for higher education emphasises

> … creative problem solving and desirable graduate attributes. It describes generic standards of learning outcomes at each level in five domains of learning: knowledge, cognitive skills, interpersonal skills and responsibility, communication, information technology and numerical skills, and, where relevant, psychomotor skills (NCAAA, 2007, cited in Darandari et al., 2009, p. 43).

However, as mentioned earlier in this chapter, little attention is given to the development of metacognitive skills (Jalil & Ziq, 2009) in the NCAAA's framework.

In 2007, some higher education institutions responded to the NCAAA's request and established internal quality assurance systems under the name 'The Deanship of Quality' (Albagmi, 2015; Darandari et al., 2009; Ministry of Higher Education, 2010). Deanship is a translation from an Arabic word, and means the organisation and structures that the dean imposes to ensure the quality of teaching and learning in their institution. In this regard, Smith and Abouammoh (2013) state that currently almost all Saudi universities have quality units or centres, quality directors or deans, and "committees to work on quality at different levels" (p. 8), and from various colleges.

Indeed, the focus of these internal quality units is improving the quality of teaching in university lecture rooms. Alnassar and Dow (2013) argue that in this wide state sector, the task falls to the government rather than the staff themselves to provide training and development opportunities for teaching staff. The entire school system should feel that it benefits from the state system and should feel comfortable asking for aid and support from the government. This could contribute to incorporating metacognition and metacognitive skills in education in KSA.

The internal quality units that are being established in most Saudi universities seek to promote excellence in teaching and learning, providing academic staff with a wide range of international and local training activities. This training is often provided by internationally recognised figures in teaching, learning, and academic leadership (Alwasal & Alhadlaq, 2012). For instance, the university in which this study took place established a 'Development and Quality Assurance Deanship' (DQAD), and one of its priorities is the development of lecturers' teaching performance. Thus, every year the deanship offers several workshops and seminars to encourage the academic staff to enhance the quality of their teaching. In this regard, Alnassar and Dow (2013) stated that it is necessary for students to be led to be active in their own learning and to be explicitly taught thinking skills, how to find information, and learning through doing and practising techniques and skills and linking their learning and placing it in context. Consequently, this would lead to an improvement in the quality of students' learning and thinking and help them to be successful learners as well as successful in their future career.

Students who can lead their thinking are likely to be able to solve their social and academic problems, analyse information, think, and think about their thinking. According to Alnassar and Dow (2013), if teaching staff do not employ modern teaching strategies that allow students "hands-on experience" (p. 58), activities, and events, which help them to obtain knowledge and analyse it, then the students are likely to fail to develop and acquire self-learning skills and deeper cultural and professional abilities. Therefore, these workshops and seminars mostly focus on how lecturers can apply active teaching methods (i.e. collaborative learning) and thinking techniques (i.e. critical thinking, emotion thinking, and logical thinking) in their teaching. However, metacognition has not yet been introduced in these workshops and seminars.

1.6.3.2 The 'Afaq' Higher Education Reform Plan

The 'Afaq' or 'Horizon' Project is another promising initiative to reform higher education in Saudi Arabia (Smith & Abouammoh, 2013). The project began in

2006 with a planned schedule until 2030 (Allamnakhrah, 2013). Afaq Plan is attempting to implement a long-term plan to monitor universities over a 25 year period in order to determine the requirements, shortfalls, achievements, funding allocations and overall aims of the programme. There will also be a framework to implement future planning in universities alongside an ethos of strategy planning, short- and long-term output, and ongoing flexibility (Ministry of Higher Education, 2014). This matches Smith and Abouammoh's (2013) argument that the project proposes mechanisms for all public universities in the country to adopt strategic plans to meet its defined goals. This has the potential to serve as a vehicle for the incorporation of metacognition in the higher education system.

The Afaq plan's stated goals are also to design programmes with a focus on research and development and community service. It further aims at facing the challenges of job-market needs for graduates with high qualifications, and assessing the impact of global advances on educational principles (Ministry of Higher Education, 2014).

One of the primary goals of the project/plan is to enhance the skills of university students to "standards comparable … [to] their international peers" (Allamnakhrah, 2013, p. 35). This is evident in the MOHE plan to achieve excellence in Science and Technology (2010), in which the project highlighted the 'Afaq' plans for student growth are as follows:

- Encouraging the individual development of "highly productive students" who may be instrumental in the future growth of the state, instilling real-world skills and readying graduates for the job market.
- Allowing students to progress throughout the education system, think critically about challenges which arise, and to consider alternative solutions.
- To build well-rounded graduates through a mix of educational, social, and extra-curricular development (Ministry of Higher Education, 2010, p. 26).

A close look at the above-mentioned targets revealed that there is no explicit description or definition of thinking skills that are targeted by the project, or any

strategic plan explaining how the development of these skills can be reached. This claim could be noted as well regarding metacognition, as there is no place in the project's mission or vision statement that explicitly indicates the development of students' metacognition.

Al-Essa (2010), a Saudi scholar, cited in Allamnakhrah (2013) acknowledged the progressive and ambitious scope of the 'Afaq' Plan; he stated that the plan "was a step in the right direction, but it has stalled and no one talks about it now" (p. 36). Similarly, it is the belief of Smith and Abouammoh (2013) that the outlined design for education sets forth clear aims and desired results but fails to set out a realistic plan for achieving them. Further, there is no recognition of the potential value of promoting metacognitive skills as a way to achieve these aims.

1.6.3.3 Unification of Educational System

Between 1975 and 2015, the higher education institutions in KSA were controlled by the Ministry of Higher Education "to execute the Kingdom's Policy on Higher Education" (Ministry of Education, 2017). However, as of 2015, the Ministry of Higher Education has been merged with the Ministry of Education (Ministry of Education, 2017). In this regard, I would argue that this merging is a significant step towards improving the Saudi education system as a whole. I believe that the availability of one unit (i.e. Ministry of Education) responsible for guiding the education system in the nation would allow the system to optimise the utilisation of resources and to confirm its ability to achieve its objectives. Moreover, it would make the process of students' education a linked and integrated system or framework in all educational phases. This could facilitate the incorporation of metacognition from early years through to higher education.

1.6.3.4 Higher Education Institutions' Initiatives to Improve Higher Education: Preparatory Year

Some Saudi universities have undertaken further initiatives to help new undergraduate students and familiarise them with the nature of study in university before they start their programmes in specific specialisations, and to

improve the quality of students' learning. These initiatives, supported by the Ministry of Higher Education, include the preparatory year (Alnassar & Dow, 2013; Alwasal & Alhadlaq, 2012; Ministry of higher education, 2010), which will be discussed below.

According to Alwasal and Alhadlaq (2012), most colleges and universities in Saudi Arabia have established a preparatory year programme. During this year, the university provides students with courses in computer skills, communication, English, research, learning, and critical-thinking skills (Alwasal & Alhadlaq, 2012). Alnassar and Dow (2013) also argue that this period brings with it facilities for student counselling, advice, and courses for optimal learning strategies for academic success. The latter will involve tips on how best to utilise study facilities, such as the library and study areas, as well as practical advice on revision, getting the most out of lectures and scheduling the day to include both study time and leisure time.

Indeed, the purpose of the preparatory year is to ensure high school graduates are prepared for higher education (Alwasal & Alhadlaq, 2012) and to enable them to overcome the difficulties they face (Alnassar & Dow, 2013). It helps them especially to address the fact that secondary school graduates are seen as having not been taught the subject content expected or needed and as having a poor understanding regarding how to learn "because they have simply been drilled to answer predictable exam questions about content rather than having been taught for understanding" (Alnassar & Dow, 2013, p. 51). However, the preparatory year programmes do not record high success in developing students' thinking and learning skills. It is in this vein that Alnassar and Dow (2013) assert the inadequacy of most courses which offer study advice, as it seems to be in its early stages, remaining somewhat hypothetical in its approach. It relies too heavily, they argue, on theory, whilst there should be a larger focus on skills such as thinking critically as opposed to the consumption of pure information. As a result, many attempts at teaching 'studying' often provide guidance on how to optimize one's ability to rote learn as opposed to providing actual learning strategies.

In the university where the study took place, new undergraduate students receive a preparatory year; Appendix (A) shows the courses that are taught in

the preparatory year. It can be noted that no courses in this year involve thinking skills at all, let alone metacognitive skills specifically.

1.6.4 Study Community: The College of Education

The study was conducted in the College of Education that is located in one of the public universities in Saudi Arabia. The college aims to provide KSA with teachers, and further aims to achieve additional goals related to the education profession, scientific research, and community service. The college is gender-segregated. The female department consists of three main departments, namely: kindergarten, special education, and art education, all three departments of which were involved in the current study. The college awards bachelor and master degrees in education in the above-mentioned fields; the college graduates are certified teachers for secondary and intermediate schools (Alshuaifan, 2009) as well as primary schools. Recently, the college started to grant a diploma degree in education for those who want to be teachers and have graduated from other specialisations, i.e. science and literature departments.

The college recognises the significance of equipping undergraduate students with thinking skills. Therefore, students are introduced to thinking and learning skills through the 'Thinking Skills' module in the first year of a specialisation (level three), with metacognition being a part of this. In this regard, Alnassar and Dow (2013) pointed out:

> … It is worth noting in passing that developing good learning approaches for students studying education with the intention of becoming school teachers will have a huge pay-off, as this new generation of teachers in schools will in turn set different emphases and a renewed culture of learning for their students (Alnassar & Dow, 2013, p. 51).

Having presented the study context, the following section will provide an overview of the thesis structure.

1.7 Thesis Structure

This section provides an overview of the structure of the thesis. Chapter One has provided the rationale for the study, the study aims and information about the context in which the study took place.

Chapter Two provides a review of literature related to metacognition and metacognitive skills, including some research studies addressing the assessment of students' metacognition, and provides a review of the literature focusing on educators' (i.e. teacher educators, lecturers, teachers) knowledge and application of metacognition. It concluded by outlining the research questions.

Chapter Three Gives details of the philosophical and theoretical underpinnings of the research before going onto describe the case study design. Details are provided on participants, data collection methods, data analysis and ethical considerations.

Chapter Four presents the findings that emerged from the analysis of classroom observations, interviews with lecturers and group interviews with undergraduate students. The chapter ends with a summary of the findings demonstrated from the three instruments.

Chapter Five discusses and interprets the main findings from the study addressing the research questions and comparing the findings to existing literature.

Chapter Six provides an overview of the study, its limitations, and its implications for teaching metacognition in higher education in KSA. A model that proposes how university lecturers teach metacognitively and promote students' metacognition is presented. The chapter then offers some suggestions for future research in metacognition.

2   Chapter Two: Literature Review

2.1   Overview of the Chapter

In this chapter, I provide a review of the literature related to the issue under investigation, which is the presence and promotion of metacognitive skills in university lecturers' teaching practice. I carried out a systematic search of literature concerning metacognition. The search was conducted through electronic databases, including PsycINFO, British Educational Index, ERIC (Educational Resources Information Center), Google Scholar, and the Saudi Digital Library. I also searched websites, such as those of Umm Al-Qura University and King Khalid University. The following keywords were used to carry out the search: metacognition, metacognitive skills or strategies and higher education, metacognition and pre-service teachers, metacognition and teachers, metacognition and university teachers/lecturers. The majority of the literature was based in the USA rather than KSA, and there was nothing about metacognitive teaching practice in Saudi Arabia.

The literature review chapter begins with an overview of metacognition, which includes definitions of metacognition, frameworks and components, along with brief discussion concerning metacognitive skills. A discussion of metacognitive pedagogy including a brief illustration of initial teacher education, a community of practice as pedagogical strategies for developing metacognition and teacher educators as role-models, and metacognition and in-service teachers will follow. Then a discussion of metacognition from a social constructivist perspective is given. Next, the chapter moves on to discuss metacognition in higher education (HE), along with literature relating to educators' teaching practices and metacognition. Finally, the chapter provides an overview of the literature presented, identifies the gap in the literature on metacognition and concludes with the research questions that guide the current inquiry.

2.2   Metacognition: An Overview

Over three decades, metacognition, its significance, and implications for instruction and learning, have become a central subject in educational research (Zohar & Ben-David, 2009). In 1976, Flavell popularised the term metacognition as referring to:

> … one's knowledge concerning one's own cognitive processes and products or anything related to them, e.g., the learning relevant properties of information of data …. it refers among other things, to active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective (Flavell,1976, p. 232).

Since then, interest in the phenomenon of metacognition has grown (Brown, 1987; Efklides, 2006; Hacker, 1998; Kluwe, 1982; Schraw, 1998; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Veenman, Van Hout-Wolters, & Afflerbach, 2006). Metacognition and its components have been researched and addressed according to different perspectives, understanding and concepts (Rahman & Masrur, 2011; Veenman, et al., 2006; Vos, 2001; Zohar & Ben-David, 2009). Moreover, several terms have been associated with metacognition such as judgment of learning, feeling of knowing, metacognitive awareness, metacognitive experiences, metacognitive belief, metacognitive knowledge, metacognitive skills, higher-order skills, executive skills, meta-components, learning strategies, comprehension monitoring, heuristic strategies, self-regulation, theory of mind, and meta-memory (Rahman & Masrur, 2011; Veenman, et al., 2006).

Carson (2012) outlined that looking across the wider literature of metacognition revealed that most of these terms and components of metacognition were developed based on Flavell's perception of metacognition and emphasised different components and concepts of the phenomenon or renamed existing ones. The number of conceivable dimensions surrounding the concept, the various definitions, terms, classifications and the analysis of what metacognition stands for have made defining metacognition a complex task (Fathima, Sasikumar, & Roja, 2014; Georghiades, 2004; Zohar & Ben-David, 2009). One of the basic problems associated with the term 'metacognition' is the difficulty to distinguish between what is cognition and what is metacognition (Brown, 1987; VanZile-Tamsen, 1996). Thus, in what follows, I introduce the most popular

definitions of metacognition reported in literature. I also highlight the difference between cognition and metacognition.

2.2.1 Cognition and Metacognition

According to Butterfield (2012), Papaleontiou-Louca (2008), and Vos (2001), 'cognition about cognition' is the most common definition used in the literature to refer to metacognition. Cornford (2002) stated that metacognitive and cognitive skills and strategies are closely related as both involve skills and cognition. Consequently, it is necessary but difficult to distinguish between what is meta and what is cognitive.

Weinstein and Hume (1998) defined cognitive strategies as thoughts, actions or behaviours that a learner uses in the learning process, with the aim of organising knowledge and learning, storing knowledge and skills as well as the ability to use and apply them in the future. Forrest-Pressley and Waller (1984) cited in Georghiades (2004) claimed that cognition refers to the actual strategies, processes and procedures used by the learner, whereas metacognition refers to what an individual knows about his/her cognitive processes and to one's ability to control these cognitive processes. Another distinction was made by Oz (2015), Schraw (1998), and Schraw and Moshman (1995) concerning cognitive and metacognitive skills; these authors believe that cognitive skills are necessary for a learner to perform a task, while metacognitive ones are required for a learner to understand how the task was performed or undertaken.

Gourgey (1998) stated that, while cognitive tasks allow the continuation of information accumulation and growth, metacognition is the function which allows this growth to be overseen, allowing cognition to be tracked and reapplied to new situations. For instance, the skill needed to read a text differs from the one that a learner needs to monitor his/her understanding of the text; the former represents a cognitive skill, while the latter is a metacognitive one (Vos, 2001).

'Cognition about cognition' (Kluwe, 1982; Hacker, 1998) was one amongst other brief definitions used in metacognition literature to describe metacognition such

as 'thinking about thinking' (Hacker, 1998; Kuhn & Dean, 2004; Livingston, 2003; Vos, 2001), 'thoughts about thoughts' (Papaleontiou-Louca, 2008), 'knowledge of knowledge' (Vos, 2001), and 'cognition about cognitive processes' (Vos, 2001), all of which might be described as ineffective in providing an accurate and comprehensive perception of metacognition. For example, even though Fathima et al., (2014, p. 28), and Livingston (2003, p. 2) defined metacognition as "thinking about thinking", those authors acknowledged that providing a clear and universal interpretation of metacognition has remained challenging. In this regard, Carson (2012) suggested that such brief descriptions of metacognition seem to "offer less direction on the epistemological or axiological perspectives of metacognition" (p. 32). Having presented what has been reported in literature regarding the distinction between cognition and metacognition, in the following sub-section, I introduce and compare three frameworks of metacognition, namely:

- Flavell's framework (1979);
- Kluwe's framework (1982);
- and Schraw and Moshman's framework (1995).

There are a number of metacognition frameworks available in literature, each of which has its values and particular implications. However, the decision to discuss the aforementioned three models was made for several reasons: firstly, Flavell's model was selected as it was the first proposed framework of metacognition. Secondly, I chose Kluwe's model because of its focus on metacognitive skills. Kluwe believed that metacognitive skills, or what he called 'cognitive process' or 'cognitive control', is the main subject in metacognition. Hence, a person would be able to supervise and adjust their learning process (Rahimi & Katal, 2011). This suggestes that the benefits of metacognitive skills of planning, monitoring, and evaluating are not limited just to academic learning as they represent the core of skilled professional performance in the adult field and world of work (Cornford, 2002). Finally, I selected Schraw and Moshman's model due to its clarity and popularly as well as the consistency of the regulatory skills in their model with the metacognitive skills I use in my study.

2.2.2 Flavell's Framework

As mentioned above Flavell (1979) was the first to propose a basic framework of metacognition. In his model of cognitive monitoring, he suggested that assessing different cognitive functions involves a combination and relationship between some or all of the following: "(a) metacognitive knowledge, (b) metacognitive experience, (c) goals (or tasks), and (d) actions (or strategies)" (p. 906). The author used the term 'metacognitive knowledge' to refer to the assumptions and information regarding the various circumstances which form cognitive patterns and future actions and the relationships between them. Flavell offered further explanation of this category stating that 'metacognitive knowledge' may be identified as the element of an individual's collection of information, which pertains to human thought, which acknowledges that humans partake in complex actions and experiences. For example, this manifests itself in children, where one child might perceive themselves as being more adept at mathematics than reading, and may observe and note that others are not.

'Metacognitive experience' is defined as "any conscious cognitive or affective experience that accompany and pertain to any intellectual enterprise"(p. 906). That is to say 'metacognitive experience' can be described as any emotions, attitude, or feeling that appear before, during or after a cognitive undertakings and it has a link with the cognitive goals/tasks and the progress that a learner or an individual is making towards achieving these objectives (Flavell, 1979). Flavell argues that metacogntive experience is more likely in scenarios which require one to think deliberately, for example in school, or when undertaking an important or unfamiliar task. Indeed, Metacognitive experience has an impact on metacognitive knowledge, cognitive and metacognitive strategies or actions, and cognitive tasks or goals. For example, it can influence an individual metacognitive knowledge base by deleting from it, adding to it, or revising it. It can lead an individual to abandon or revise old goals or to set new goals (Flavell, 1979). Moreover, both metacognitive experience and knowledge interact to affect the procedures that are taken to reach the goals or tasks (Flavell, 1979).

Regarding the goals or tasks category, Flavell related it to the objectives or targets of a cognitive operation. Meanwhile, according to Flavell, the strategies or actions category indicates to the cognition or other behaviors or efforts made

or employed to complete and achieve these aims or objectives. Based on this perception, Flavell (1979) defined metacognition as "knowledge and cognition about cognitive phenomena" (p. 906). A number of frameworks and classifications of metacognition followed Flavell's framework. Several scholars reviewed his work and developed their own understanding as well as classifications of metacognition.

2.2.3 Kluwe's Framework

Kluwe's (1982) model of metacognition draws on Flavell's (1979) model, but focuses on information processing systems. Kluwe (1982), firstly, defined metacognition based on Flavell work as "cognition about cognition" (p. 202). He then, stated that:

> … there are general attributes which are common to these activities referred as "metacognitive": (a) the thinking subject has some knowledge about his own thinking and that of other persons: (b) the thinking subject may monitor and regulate the course of his own thinking, i.e., may act as the causal agent of his own thinking (Kluwe, 1982, p. 202).

Kluwe, classified metacognition into two categories: cognitive knowledge and executive control. According to him, cognitive knowledge refers to "a person's stored information about human thinking, especially about the features of his own thinking" (p. 201). This implies, cognitive knowledge may be understood as the knowledge one accumulates and keeps regarding one's own thought processes and their specific aspects. While, executive control or process, on the other hand, refers to "cognitive activity directed at the monitoring of the application and the effects of solution strategies and at the regulation of the course of one's own thinking" (p. 201). This suggests that executive function is that form of cognition which supervises the use and outcomes of cognitive solutions and organises the pattern of one's own cognition.

Kluwe's model therefore focusses more on the process of metacognitive monitoring rather than a definition of what metacognition is. This could be attributed to his emphasis that, "Our thinking is not just happening, like a reflex; it is caused by the thinking person, it can be monitored and regulated deliberately, i.e., it is under the control of the thinking person" (Kluwe, 1982, p.

222). His model reveals an emphasis on a person's causal agency to monitor and regulate his or her own thinking.

2.2.4   Schraw and Moshman's Framework

Schraw and Moshman (1995) also developed a framework of metacognition. Whilst this framework connected with Flavell's (1979) model, it was also based on some other scholars' works, including Brown (1987) and Paris and Winograd (1990). Schraw and Moshman's framework defines metacognition as comprising two dimensions: knowledge of cognition and regulation of cognition. From their point of view, knowledge of cognition refers to knowledge about cognition, in general, as well as one's own cognition, while regulation of cognition concerns the regulatory process of cognition which manages thoughts and knowledge through metacognitive activity. Having described the three models, below I discuss, compare and contrast them.

2.2.5   A Discussion of the Three Models

Based on the above presentation, it can be noted that two dimensions are demonstrated in the three models: knowledge of cognition and regulation of cognition. For instance, concerning the 'knowledge of cognition', Flavell (1979) called it metacognitive knowledge. He argued that metacognitive knowledge consists of three categories or variables: person, task, and strategy; and most metacognitive knowledge involves combinations or interactions among two or all of these three variables. According to him, the 'person category' refers to an individual's knowledge about him/her self as a learner as well as awareness of the nature of others as learners. The 'task variable' refers to awareness about the nature of the task and the information that is available about the demands to perform the task, because different tasks have different objectives and require different strategies. The 'strategy variable' refers to knowledge about which strategies to select and use to perform the cognitive undertakings of the task best.

When analysing these models, I noticed that Kluwe referred to metacognitive knowledge proposed by Flavell and described it as cognitive knowledge that

pertains "an individual's stored assumption, hypotheses, and beliefs about thinking" (Kluwe, 1982, p. 203). Schraw and Moshman's (1995) classification of knowledge of cognition is divided up into three categories: declarative, procedural, and conditional knowledge.

On the one hand, Schraw and Moshman (1995), described declarative knowledge as individual knowledge and awareness of oneself as a learner as well as awareness of factors that influence one's performance (i.e. the learner's age), or what are called the 'person variable' and 'task variable' in Flavell's model or as 'cognitive knowledge' in Kluwe's model. Procedural knowledge, on the other hand, concerns knowledge about the implementation of procedural skills or cognitive processes (Schraw & Moshman, 1995). Procedural knowledge concerns how to do things, which can be best associated with what Flavell called a 'metacognitive knowledge strategy' and described in his model of cognitive monitoring, and what Kluwe called 'solution processes' and 'executive processes'. Kluwe's solution processes are "directed at the solution of a problem" (p.204), and his executive processes "monitor the selection and application" of the solution activity (p. 204). The final category in Schraw and Moshman's classification of knowledge of cognition is conditional knowledge, its main function, is the awareness of when to apply different forms of cognition and the reasons for doing so. This suggests that conditional knowledge is associated with why and when to apply procedural and declarative knowledge, which is closer to the 'task variable' in Flavell's model.

With respect to, the executive or the regulatory dimension, Flavell (1979) did not discuss this in the same level of detail that he did metacognitive knowledge and metacognitive experience. He classified it as a main category in his model, calling it an action or strategy that is aimed at monitoring of an individual's knowledge. Support for this argument appears in Kluwe's (1982) claim that Flavell used the concept of metacognitive strategies to describe what Kluwe viewed as the executive process of monitoring one's own thinking, for example a student keeping track of their progress. The 'strategy category' also appeared again in Flavell's classification as a sub-category of metacognitive knowledge concerning knowing which strategy is more appropriate to perform a task or what is described as 'cognitive strategies'.

Ozturk (2011) criticised Flavell's model for overlapping concepts, stating that "according to Flavell's model of metacognition, metacognitive knowledge and metacognitive strategies are overlapping concepts" (p. 51). Ozturk's point of view could be attributed to what I have mentioned above in that Flavell (1979) did not discuss 'metacognitive strategy' in the same level of detail that he did metacognitive knowledge and metacognitive experience. He instead discussed this category within 'metacognitive knowledge' and 'metacognitive experience' categories. Also, it might be built on Ozturk's misunderstanding of the differences between cognitive strategies and metacognitive strategies described in Flavell's model.

Kluwe (1982) used the terms 'executive control' or 'executive processes' to describe both monitoring strategies and regulation strategies. On the one hand, executive monitoring strategies refer to "executive activity directed at the acquisition of information about the person's thinking processes" (p. 212). This involves (a) a person's ability to identify the task, "what am I doing" (p. 214); (b) checking the progress of that task; (c) evaluating the alternatives, the plan, and the progress; (d) and predicting the potential outcomes of this progress. It is clear that the three latter items emphasise the two regulatory skills mentioned by Schraw and Moshman (1995), namely, monitoring and evaluating, while item (a) is more likely to describe 'declarative knowledge'.

On the other hand, executive regulation strategies refer to "activity directed at the regulation of the course of one's thinking" (Kluwe, 1982, p. 212). Examples of this category appear in one's ability to make a decision regarding (a) allocating resources to perform the current task; (b) identifying the steps demanded to complete the task and their sequence; (c) regulating the intensity, duration and persistence of information processing; (d) allocating time; and the speed required to perform the task. This category is closely associated with the planning skill described in Schraw and Moshman's (1995) framework under 'regulation of cognition'. For these authors the executive dimension is called 'regulation of cognition', which comprises three regulatory skills, namely; planning, monitoring, and evaluating. The planning skill "involves the selection of appropriate strategies and the allocation of resources that affect performance" (p. 354). Goal setting, selecting strategies, strategy sequencing and allocating of resources and time are examples of activities involved in this

skill. The monitoring skill "refers to one's on-line awareness of comprehension and task performance" (p. 355). A good example of monitoring is engaging in self-testing or self-evaluating during learning. Evaluation refers "to appraising the products and regulatory processes of one's learning" (p. 355). Moreover, re-evaluating one's conclusions and goals is a typical example of one's ability to evaluate.

According to Hacker (1998) there is no consensus regarding a theory or framework of metacognition. Similarly, Schraw (2000) argued that decades of research had not yet achieved a full theory of metacognition. This concurs with Thomas, Anderson, and Nashon's (2008) argument that whilst there is consistency in the literature concerning the importance of metacognition, there is inconsistency regarding the definition of the construct. In this respect, in line with Alzahrani (2017a), I suggest there is inconsistency as to the borders of the concept of 'metacognition'. Metacognition is a multifaceted concept with greatly varying definitions among researchers (Buratti & Allwood, 2015). However, metacognition literature demonstrated that there is consistency regarding the components of metacognition, as it will be explained in the following section.

In this study, I define the term 'metacognition' as an individual's awareness or knowledge about his/her cognitive processes and his/her ability to regulate and control them in the learning process (Hartman, 2001b; Schraw & Moshman, 1995; Veenman et al., 2006). This definition takes into consideration the basic components of metacognition that are discussed extensively in relevant literature. Additionally, I utilise Schraw and Moshman's (1995) framework as it identifies both basic components of metacognition. This is in line with Balcikanli's (2011) argument that Schraw and Moshman distinguished metacognitive knowledge from metacognitive regulation, and that this distinction has met with wide acceptance in many studies. Figure 2.1 shows Schraw and Moshman's (1995) model of metacognition:

Figure 2.1 Schraw and Moshman's (1995) framework of metacognition
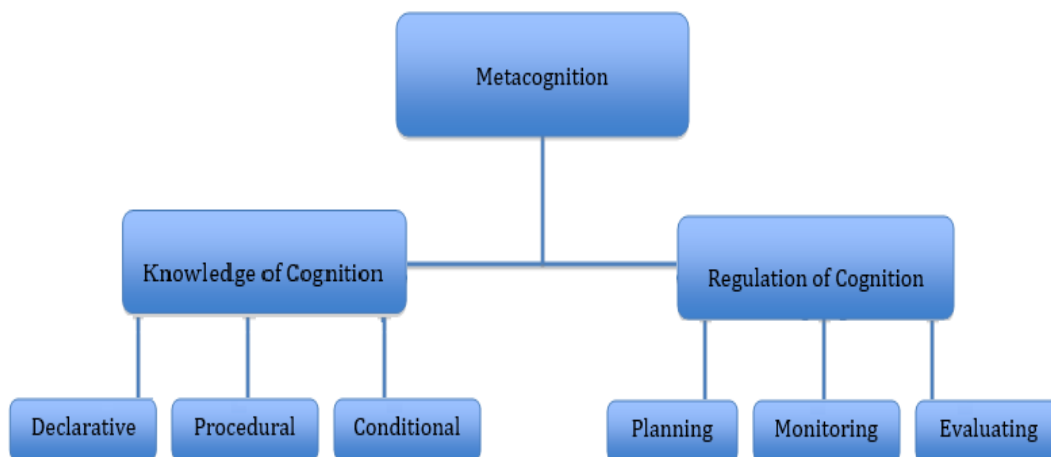
In the subsection that follows, I briefly describe the most widely accepted components of metacognition.

2.2.6 Components of Metacognition

Despite discussion about the precise definitions of metacognition, there is a general consensus that metacognition basically comprises two components: knowledge of cognition and regulation of cognition (Brown, 1987; Fathima et al., 2014; Livingston, 2003; Oz, 2015; Schraw, 1998; Schraw & Moshman, 1995; Sungur & Senler, 2009; Zohar & Ben-David, 2009). I agree with VanZile-Tamsen (1996) that most definitions of metacognition have demonstrated elements of 'knowledge of cognition' such as knowledge about one's cognitive process; and how one thinks and learns as well as knowledge about people's cognitive processes in general and how they learn and think. Definitions also cover the processes of cognition demanded by various tasks and the actions and strategies likely to help a learner to be successful in completing tasks.

Furthermore, these definitions include elements of 'regulation of cognition' in which one utilises self-awareness and cognition to monitor cognitive processes, plan the task, select resources and strategies, and evaluate strategies used, replacing them with alternatives or revising them when they fail to make progress toward the cognitive objectives. As mentioned earlier in this chapter,

knowledge of cognition can be divided into three categories: declarative, procedural and conditional knowledge. Whilst regulation of cognition occurs when an individual plans, monitors, and evaluates his cognitive enterprise in the learning context (Sandi-Urena, Cooper, & Stevens, 2011; Schraw, 1998; Schraw & Moshman, 1995).

With respect to 'regulation of cognition', this has been researched under different labels, with scholars calling it metacognitive skills (Efklides, 2006; Efklides, 2008; Hacker, 1998; Sandi-Urena et al., 2011; Veenman et al., 2006; Veenman, Wilhelm, & Beishuizen, 2004; Zohar & Ben-David, 2009); executive management strategies (Hartman, 2001b); 'executive control' or 'executive processes' (Kluwe, 1982), or metacognitive strategies (Flavell, 1979; Rahimi & Katal, 2011; Zhang & Seepho, 2013). In this study, I only address the presence and promotion of the regulation dimension of metacognition; however, I investigated it under the name 'metacognitive skills'. In my view, 'regulation of cognition' is the umbrella that covers the sub-skills required to control and regulate any cognitive enterprise. Accordingly, planning, monitoring, and evaluating skills were investigated while exploring the presence and promotion of metacognitive skills in lecturers' teaching practices. These three skills are usually included in the accounts in the literature that has addressed the regulatory skills of metacognition (Schraw, 1998; Schraw & Moshman, 1995).

The decision to investigate metacognitive skills was made due to the significant role that these can play in the improvement of learning, especially when they become a part of classroom instruction and the student understands them as well as being aware of how to use them (Schraw & Moshman, 1995). Indeed, metacognitive skills have been identified as core competencies for a student to learn how to regulate his/her thinking and learning (Erskine, 2009).

As I stated above, metacognitive skills have been studied under various terms that are often used interchangeably. However, I found that 'metacognitive skills' and 'metacognitive strategies' are the most common terms used in metacognition literature. Therefore, there might be a necessity here to clarify how some authors have viewed both terms. Veenman et al. (2006) claimed, "there is the perennial issue of what constitutes a skill and what constitutes a strategy" (p. 6). For instance, Hartman (2001a) argues that strategies are

conscious, deliberate uses of specific methods, while skills are refined strategies deployed situationally, unconsciously and automatically as needed. This suggests a distinction between strategy as a choice to use a particular approach, and skill as a technique that is more situation specific.

Butterfield (2012) also holds that strategy can be applied to different tasks (problem solving) while skills "are understood to be highly efficient, automatic routine procedures that are applied consistently in the circumstances in which they are required" (Sagor, 1999, cited in Butterfield, 2012, p. 58). Veenman et al. (2006) suggest that a skill occurs in an automatic way, while a strategy occurs intentionally.

Veenman et al. (2004) defined 'metacognitive skills' as skills that "concern the procedural knowledge that is required for the actual regulation of, or control over one's learning activities" (p. 90). This definition is similar to that proposed by Veenman and Verheij (2003), however, a classification of these skills was presented in the latter work, where the authors added that "task orientation, planning, monitoring, checking, and reflection are manifestations of such skills" (p, 260-261). Similarly, Efklides (2006) described metacognitive skill as "procedural knowledge, it is what the person deliberately does to control cognition" (p. 5). In this current study, I used the term skills and defined 'metacognitive skills' as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills (Veenman et al., 2004; Veenman & Verheij, 2003).

In contrast to Butterfield (2012) and Hartman (2001a), Efklides (2006; 2008) contended that metacognitive skills are conscious and deliberate activities. There is no definitive perspective regarding whether metacognition or metacognitive skills are conscious processes or automatic ones (Carson, 2012). Indeed, this matter is one of the common issues under debate in the metacognition literature (Carson, 2012; Efklides, 2008; Veenman et al., 2006). In this regard, there are two arguments; one argument asserts that metacognition must be conscious to perform higher-order processing (Nelson, 1996). Wilson and Bai (2010) argue that metacognition requires a deliberate awareness and deliberate regulation of an individual's learning. There is an

argument that the monitoring and evaluating activities can become unconscious as they become habitual or automatic (Baker & Brown, 1980; Brown, 1987; Veenman, Prins, & Elshout, 2002; Veenman et al., 2006). Efklides (2008) put forward the argument that the association of metacognition with consciousness is unavoidable, if we want to understand how individuals deal with their cognitive processing, especially if they come across new demanding situations or if their automatic processing fails. Therefore, when our automatic, unconscious processing is unable to process a situation, we must engage our conscious effort to process it. However, Efklides (2008) also allowed a degree of unconsciousness claiming that, if we consider metacognition as control and monitoring of ongoing cognitive activity, with feedback frameworks operating to adjust and organise cognitive processing, then the notion of metacognition functioning only at a conscious level is no longer defensible.

This shows that scholarly opinion is divided over the extent to which metacognition is a conscious or unconscious process. Perhaps the primary reason leading to this debate whether metacognition is a conscious or unconscious phenomenon is the fact that these processes, activities, or skills are mental, private, internal and relatively invisible, unless the person who uses them makes them visible by providing deliberate explanations of the processes (Cornford (2002). Having provided an overview of metacognition, the following section provides a brief view of the significance of metacognition in education and how it is viewed from a social constructivist perspective.

2.3 Metacognitive Pedagogy

Regarding the question of how metacognition or one's knowledge, awareness and regulation of his/her own cognitive processes relates to learning, Flavell (1979) asserted its positive impact as:

> … I believe that metacognitive knowledge can lead you to select, evaluate, revise, and abandon cognitive tasks, goals, and strategies in light of their relationships with one another and with your own abilities and interests with respect to that enterprise. Similarly, it can lead to any of a wide variety of metacognitive experience concerning self, tasks, goals, and strategies, and can also help you interpret the meaning and behavioral implications of these metacognitive experience (Flavell, 1979, p. 908).

In this regard, Balcikanli, (2011) believes that if the aim of education is to create learners who can take charge of their own thinking and learning, then they need to have the ability to plan, monitor and evaluate these things. Viewing the relevant literature shows that metacognition has been seen as a crucial ingredient in successful learning (Abdolhosseini, Keikhavani, & Hasel, 2011; Butterfield, 2012; Cornford, 2002; Coutinho, 2007; Hacker, 1998; Livingston, 2003; Memnun, 2013; Oz, 2015; Sandi-Urena et al., 2011; Schraw, 1998; Veenman et al., 2006). Rahimi and Katal (2011) suggest that metacognitive learners are the most successful because they have the ability to take conscious and deliberate steps to understand, think and rethink what they are doing when they think or learn.

Metacognition, in general, has proven to have a positive effect on knowledge acquisition, retention, memorisation, comprehension and application (Abdolhosseini et al., 2011; Hartman, 1998). It further influences critical thinking, problem solving and learning efficiency, whilst also supporting learners' motivation and academic progress (Abdolhosseini et al., 2011; Hartman, 1998). Memnun (2013) has argued that metacognition provides learners with awareness of their thinking and an ability to regulate thinking. Abdolhosseini et al., (2011) and Doganay and Demir (2011) indicated the critical role that metacognition plays in enhancing thinking and problem solving skills of learners. A lack of awareness of metacognition affects learning and problem solving behaviour (Memnun, 2013). According to Kuiper (2002) and Schraw and Graham (1997), metacognition makes it easier for individuals to control their own learning; it further supports life-long skills, reflective thought, improves self-esteem, enhances quick decision-making, and produces feelings of responsibility (Kuiper, 2002; Schraw & Graham, 1997).

This is in line with Alci and Karatas' (2011) argument that individuals' metacognitive awareness represents a significant factor in increasing their success, their critical and creative thinking, building their self-confidence and increases their learning throughout their life. Moreover, research into metacognition has shown that it supports learning in general, and learning related to specific areas (Oz, 2015). For example, metacognition has a positive impact on reading (Khezrlon, 2012; Thomas & Barksdale-Add, 2000; Zhang & Seepho, 2013), science (Kung & Linder, 2007; Oz, 2015; Zohar & Ben-David,

2009) mathematics (Anggo, 2011; Nool, 2012) and language acquisition (Oz, 2015; Rahimi & Katal, 2011; Yusri, Rahimi, Shah, & Wah, 2013; Zhang & Seepho, 2013). In this respect, Anderson (2003) believes that metacognitive skills, in particular, play a more significant role in language acquisition than other learning strategies because a student has the ability to direct, regulate and control his/her own learning and thinking process.

The ultimate goal of much education in the 21st century is creating lifelong learners, hence, Sternberg (2009) states that there is a need for learning not only textbook factoids, but rather of skills, particularly those which undergird metacognition. Many scholars have called for developing students' metacognition in general, and metacognitive skills in particular. Balcikanli (2011), for example, claimed if students do not have metacognitive strategies they will never be autonomous or independent learners, because they lack the ability to arrange, regulate, control, and evaluate their learning activities.

Fortunately, the literature shows that metacognition, and in particular, metacognitive skills can be taught. This claim was emphasised by Nickerson, Perkins, and Smith (1985), stating that a remarkable number of scholars and researchers believe that metacognitive skills are useful and teachable. Nickerson and his colleagues (1985) expressed the belief that metacognitive skills may soon be emphasized in instructional programmes. In a similar vein, Yassin, El-Omari, and Al-Barri (2013) contended that teaching and training students to use metacognitive and cognitive strategies is possible.

Paris and Paris (2001) have opined that a student's metacognitive abilities are influenced by teachers and the material and teaching methods they use. This accords with Schraw, Brooks, and Crippen's (2005) argument that via classroom instruction, it is possible to improve metacognitive knowledge and strategies. Hence, it is important that teachers make a considerable effort to develop students' metacognition (Ben-David & Orion, 2013; Goh, 2008). The interaction between the student and the context surrounding him/her could play a significant role regarding the development of metacognition.

2.3.1 Initial Teacher Education (ITT)

Initial teacher education or initial teacher training, is the critical first phase in teachers' professional journeys (Snoek, Stegerm, & Worek, 2015), and many of the beliefs and habits about teaching are developed at this stage (Malcom, 2008). The orientation of initial teacher programmes involves training student teachers in a pattern or a way that prepares them to teach according to the demands of the teaching career. Moreover, they should have opportunities for continual self-training after the accomplishment of initial training (Grosmman, Hammerness, & McDonald, 2009).

Competent teachers are a precondition of a dynamic educational process. It is essential to develop a constant and real relationship between theoretical knowledge and pedagogical practice of future teachers. Student teachers should have awareness regarding the role they play in educating new generations as well as the fact that what they teach is what learners obtain (Kelemen, 2015). Therefore, shaping student teachers' knowledge, skills and attitudes would establish the basis for student teachers' ability to facilitate and lead successful student learning (Snoek et al., 2015).

According to Niemi, Nevgl, and Aksit (2016) academic content, pedagogical studies, and teaching practice are the prime components of most programmes of initial teacher education. However, they might differ in their structures. On a related note, Kelemen (2012) argues teacher preparation and training programmes vary in different faculties of education by the formation of the academic staff, by curricula, by the organisational culture, and by strategies or ways of leading courses and seminars.

According to Shawer (2013), in the Twenty-first-century, educators, mainly teacher educators, should train student teachers to become independent lifelong learners and to learn how to learn; thus, they may become able to address or deal with social, political and economic uncertainties. In the same vein, Kelemen (2015) outlines that comprehensive training of student teachers should involve the achievement of all theoretical and operational competences demanded by the teaching occupation. For example, the operational competence encompasses diverse higher-order skills enhancing the ability to respond to unpredictable situations (Kelemen, 2012). She further elaborated that this operational definition covers knowledge, skills, and metacognition,

including intentional conscious decision making. Welch (2012) emphasised that better teacher training features a combination of theory and practice, but moreover affirmed student teachers' self-reflection and metacognition for enhancing their understanding of their theoretical learning and practical application.

However, Izadinia (2012) observed that, in Iran, for example, language teacher education programmes at most focus on issues such as, how to use practical language instruction, how to manage the classroom, and how to engage students in classroom activities; and there is little attention directed towards critical pedagogical objectives such as promoting student teachers' consciousness of their sociopolitical roles, self-awareness and critical thinking. Izadinia (2012) claims there is overemphasis on transmission of knowledge, at the expense of teaching practical techniques like critical thinking and discussion, whereas instilling thinking skills in pre-service teachers equips student teachers for better practice.

A similar situation might exist in most teacher preparation programmes, in which the focus is limited to the teaching of subject content, pedagogies, and classroom management; and little interests on the teaching of thinking skills such as metacognition. In this regard, Demirel, Askin, and Yagci's (2015) findings revealed that the metacognitive skill levels of the teacher candidates were middling, on a scale of metacognitive skills consisting of 30 items developed by Altındağ (2008), whereby 239 student teachers were asked to rank their metacognitive skills level by answering "Strongly Agree", "Agree", "Undecided", "Disagree", "Strongly Disagree" to the items. This shows that pre-service teachers might not have high levels of metacognitive skills according to Demirel et al (2015), and accordingly might not be able to promote it to their own students in future.

Similar results were reported by Temel, Ozgur, and Yilmaz (2012), who found those teacher candidates being educated in the Chemistry department. Temel et al. asked 46 pre-service Chemistry teachers to respond to a Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich, Smith, Garcia and McKeachie (1991), adapted into Turkish by Temel et al., using a 5 point Likert scale. Respondents lacked high metacognitive skill levels. The

researchers concluded that developing metacognitive skills in preservice teachers is essential for self-awareness around their learning. As such, trainee teachers should be taught metacognitive skills and when to use them.

Graham and Phelps (2003) argue that, in teacher education programmes, immersing student teachers in a metacognitive approach earlier would enhance their metacognitive skills and empower them to promote the same in their teaching from the beginning of their profession. The authors ultimately suggest including metacognitive learning processes and reflection in teacher education programmes as building blocks for lifelong learning, essential for effective teaching practice, due to the ability to think, rethink, and reflect, and then apply this to their learning and practice. This has consequent improvements on teaching practice and on student outcomes.

The following section presents two pedagogical strategies that might encourage the development of students and student teachers' metacognition.

2.3.2 Community of Practice: Pedagogical Strategies for Developing Metacognition

Lave and Wenger's (1991) notion of 'legitimate peripheral participation' was one of the bases of 'community of practice'. According to them, legitimate peripheral participation implies that students participate in communities of practitioners to acquire skills such as self-evaluation. Relationships with authorities and with peers in the community are fundamental parts of full immersion in legitimate peripheral participation (Lave & Wenger, 1991).

Lave and Wenger (1991) argued a community of practice consists of a network of relationships and practices, which interact to form a more concrete base of learning. This phenomenon is essential, argue Lave and Wenger (1991), to furthering learning, as it provides the community with a provenance for information. They further argued that the fact they use the term 'community' to describe this process highlights the role of voluntary and direct involvement, with interaction and exchange at its core: there should be some awareness of how the community impacts each member as individuals, and the community as a whole. Filipovic and Jovanovic (2016) described community of practice as the

construction and generating of knowledge through a complex process of negotiation and reflection. This may suggest thinking skills, i.e. metacognition, can be developed in community of practice.

Jakovljevic, Buckley, and Bushney (2013) assert that communities of practice are generally accepted as a key tool for improving quality of higher education outcomes. Similarly, Jimenez-Silva and Olson (2012) claimed that in the US, for example, there are several studies that highlighted the values and advantages of organizing and designing learning in teacher education programmes around the communities of practice model.

Jakovljevic and his colleagues (2013), divide knowledge to four types; conceptual, factual, procedural and metacognitive. They added that, addressing problems in the real-world may demand theoretical, factual, procedural, and metacognitive knowledge. Jakovljevic et al. (2013) further pointed out that, community of practice offers the community members opportunities for knowledge sharing and enhancement of creativity and metacognitive skills. They explain, "through social networks within [communities of practice] the individuals receive, evaluate, reflect and return knowledge" (p.1110). In the same vein, Jimenez-Silva and Olson outlined;

> … As members of a community of practice interact, share, and participate in a particular cultural practice over time, they develop their understanding about the practice, about who they are, and about what they know in relation to the community and its goals (Jimenez-Silva & Olson, 2012, p. 336).

The value of communities of practice to metacognition has been confirmed, for example, by Garrison and Akyol (2013) and Garrison and Akyol (2015). Their findings suggest that establishing the classroom as a community of practice is central to promoting metacognition by integrating individual and shared regulation. Data were collected from 192 participants through a questionnaire containing two dimensions, transitioning from individual to shared learning processes. The personal dimension included such metacognitive processes as monitoring one's own learning, and the shared dimension included evaluating the learning processes of others. Therefore, when participants in collaborative learning environments engage with one another's metacognitive thoughts and

actions, they are more likely to successfully enhance their own and others' metacognitive abilities.

Similarly, Inaba (2006) found collaborative learning processes in the community of practice to be valuable for promoting metacognitive knowledge and metacognitive skills. Approximately 200 participants were introduced to metacognition through an online community of practice forum. The researcher interviewed six participants, who reported that involvement in the community of practice changed their appreciation of metacognition, and facilitated their use of metacognitive skills, such as planning and evaluation. This shows that community of practice can serve as a vehicle for encouraging metacognition.

Adler (1998) argues community of practice switches the centre from teaching to learning and the practice the learner is involved in. Moreover, it depicts the role of the lecturer not chiefly as source of knowledge, but rather as an expert in the practices of the community. (Jakovljevic et al., 2013). This can empower students in the class community to become metacognitive learners and promote co-working between students as well as students and teachers.

Therefore, to equip learners with the necessary knowledge, skills, attitudes and values, they need effective community of practice groups that should focus on tacit knowledge sharing; innovation constructs knowledge and co-operative learning facilitation (Jakovljevic et al., 2013). Accordingly, there is a need to establish the classroom as community of practice. Goos, Galbraith, & Renshaw (1994) identify three features necessary to create community of practice in the classroom environment. Firstly, they recommend contexts which create innovative teacher-student interactions. Secondly, they recommend contexts where students might perceive themselves and their peers as co-constructing and creating ideas through student-student interaction. Thirdly, they recommend contexts of individual reflection, including metacognitive internal dialogue.

In community of practice classrooms, teacher-student interactions occur when the teacher designs activities or creates situations, which increase students' opportunities to explicitly express their thinking (Wall et al., 2010; Wall, 2014; Wall and Hall, 2016). S/he engages in dialogue with students, rather than

evaluate their interpretations, in order to draw out their thinking. Using this non-evaluative, discursive approach is an essential component to facilitate students' voicing their thinking (Goos et al., 1994). Goos (1996) further claims that teachers in community of practice classrooms model thinking skills, encourage reflection, and introduce tools and language to improve and express their thinking.

With respect to student-student interaction in the community of practice, teachers should consider student-student interaction by creating contexts that engage students in collaborative tasks. In doing so, Goos et al. (1994) outlined teachers need to help students to have the courage to propose ideas; seek explanations; persevere; consider one another's alternatives; and cooperate to produce solutions. In such contexts, metacognition and self-regulation improve through students observing and listening to each other (Lajoie & Lu, 2012).

Garrison and Akyol (2013) likewise suggest sharing and collaboration activities are essential for developing and sustaining metacognition. Chiu and Kuo (2009) elaborated that when members of a group engage in practicing metacognition to facilitate learning, it increases the visibility of metacognition, construction of shared knowledge, and maintains group motivation, as well as mitigating such challenges as inaccurate self-evaluation and unsuitable choice of solution strategies.

Regarding self-reflection in the community of practice, Goos et al. (1994) highlighted how essential this is. They claim individual reflective and self-regulatory activity are metacognitive processes which nevertheless have a social nature and place in community of practice, because ideas can be reconsidered in the light of joint activity with teachers or fellow students.

In sum, higher education professors may design the classroom activities to enhance students' metacognition through community of practice technique, as this technique would catalyse students to embed their learning and to interpret knowledge differently. (Kapucu, 2012).

2.3.3 Teacher Educators as Role Models

Literature suggested that role-modelling by teacher educators can be a powerful tool to develop practice of future teachers (Luneberg, Korthagen, &

Swennen, 2007). Role modelling is described by Irby as the process or strategy in which "faculty members demonstrate (…) skills, model and articulate expert thought processes and manifest positive professional characteristics" (1986, cited in Passi er al., 2013, p.1422). Role modelling could therefore be a valuable pedagogy to teach and promote metacognitive skills.

In teacher education settings, Luneberg et al. (2007) summarise three crucial features of modelling by teacher educators; firstly, modelling by teacher educators could facilitate student teachers' professional development, when teacher educators model specific behaviour, student teachers not only read and hear about teaching but they also experience it. This suggests that teacher educators role-modelling metacognition can facilitate student teachers' acquisition of metacognitive skills (Wall & Hall, 2016). Nevertheless, this seems not enough: student teachers ought to be supported to concentrate on and to reflect on the significance of this modelling, and how it can assist them to develop their own teaching (Luneberg et al., 2007).

Secondly, some scholars consider modelling by teacher educators as a path to change education (Luneberg et al., 2007; Stofflett & Stoddart, 1994). Those authors believe that the presentation of practices such as role-modelling into teacher education could generate in student teachers a new form of educational thinking and, on the grounds of the examples experienced, enable them to form their own practices accordingly. Hence, modelling such skills as metacognition by teacher educators could cause change in education generally as it will prepare student teachers and their future students as lifelong metacognitive learners.

Thirdly, modelling could also moderate the teaching practices of teacher educators by helping them to develop their pedagogical repertoire, to contemplate and reflect on their own teaching practice, and to think again about the relationship between the theory and the practice of teacher education (Luneberg et al., 2007). With role-modelling, student teachers can learn how to teach metacognition to their own students in their future practice. However, without training on how to teach metacognition, teachers cannot model it (Rampp & Guffey, 1999).

Bienvenida's (2014) study findings highlighted modelling and demonstrated thinking processes as a strategy for developing metacognitive behaviours of second-year students in Biology. Regarding which, a similar result might be obtained if teacher educators set an example of metacognition for their students. This implies if teacher educators attempt to implement metacognition and to model it to encourage students/student teachers' awareness and usage of metacognition, then student teachers might become metacognitive learners or lifelong learners themselves. Luneberg, et al. (2007), point to four ways of doing modelling; "(1) implicit modelling, which seems to have a low impact; (2) explicit modelling; (3) explicit modelling and facilitating the translation into the student teachers' own practice; (4) connecting exemplary behaviour to theory" (p. 579).

In the same vein, Wall and Hall (2016) claim that educators could serve as metacognitive role models for their students. Based on a longitudinal collaborative enterprise with teachers in England from all educational stages, Wall et al. (2010) recommended explicit modelling for the development of students' metacognition. Wall and Hall (2016), who took part in the aforementioned project elaborated;

> … a classroom that emphasises metacognition, therefore, allows time to focus on the learning process, the sharing of thinking about thinking, and creates spaces in which the learners can act on their reflections (time for reflective and strategic thinking). In other words, the learners are encouraged to engage in how they have learned, what were the successes and failures of that learning and then contemplate how to move forwards and make that learning better (Wall & Hall, 2016, p. 408).

However, Luneberg and his colleagues' (2007) study revealed explicit modelling is not a common practice amongst teacher educators; student teachers were not supported to reflect or think or to make their own decisions on how to interpret or translate this into their own teaching. The researchers added there is little or no realisation of modelling as an effective teaching strategy in teacher education. They suggest that teacher educators lack the skills and knowledge necessary to utilise modelling productively and efficiently, to make their own teaching explicit, and to reflect and think again about the link between the theory and their teacher education practices.

Teacher educators should be metacognitive learners themselves as well as metacognitive role models for their student teachers to develop their metacognition. Smith (2001) stated metacognitive teacher educators are good teacher educators: reflecting on their own teaching and explicitly explaining to their student teachers why and how they teach, they connect theory with practice and bring this awareness to their learners (cited in Luneberg et al., 2007).

Drawing on the above illustration, metacognition is important not only for students, but also for teachers as well in order to be able to apply it and teach it to their students. Thus, a line of research conducted to investigate teachers' metacognition is outlined in the section below.

2.3.4 Metacognition and In-Service Teachers

Research has shown that teachers lack knowledge of metacognition, and what knowledge they do have, they fail to apply consistently (Ben-David & Orion, 2013; Doganay & Ozturk, 2011; Wilson & Bai, 2010; Yassin et al., 2013) However, these studies have not always identified what factors limit teachers' knowledge or how it can be better taught.

Wilson and Bai's (2010) study probed in-service teachers' understanding of metacognition and their pedagogical understanding of it, as well as the relationship between these factors. One hundred and five K-12 teachers majoring in different areas in education in the US participated. A mixed methods approach was utilised, including, an online survey questionnaire that requested demographic data and the answers to two open-ended questions aimed at collecting qualitative data, i.e. 'What is metacognition?' and 'What are metacognitive thinking strategies?' Accordingly, only teachers who were able to define metacognition based on ideas in research and educational theory were included in the study. Secondly, to collect quantitative data, a survey using the 'Teachers Metacognition Scale' was utilised, which was designed by the authors to assess the teacher participants' perceptions of their knowledge of metacognition, their pedagogical knowledge of metacognition, and their beliefs about practices best suited to encourage students' metacognition. The findings showed that understanding of metacognition was related to teachers'

perceptions of instructional strategies that assist students to become metacognitive. It also suggested that educators tended to act in ways which indicated they were highly academically informed when it came to metacognition, but that their beliefs and accumulated knowledge also contained contradictions.

Moreover, Wilson and Bai's (2010) findings indicated that the metacognitive knowledge of the teacher participants had a significant influence on their pedagogical understanding of metacognition. Interestingly, those teachers who had a rich understanding of metacognition believed that a complex understanding of the concept of metacognition as well as metacognitive skills are required in order to teach students to be metacognitive learners. Regarding the teaching of metacognition, the teacher participants acknowledged the value of both implicit and explicit instruction. Wilson and his colleague focused on what teachers know they should do to teach metacognition. However, they did not address the actual employment of metacognitive skills during their teaching. Hence, they concluded that it is important to study "teachers' understanding of the act of teaching metacognition, the challenges they face in doing so, and the relation between their metacognitive knowledge and pedagogical understanding of metacognition" (p. 270), because this could inform their professional development. This exposes a link between teachers' theoretical knowledge of metacognition and their ability to apply it and teach it to students.

In contrast, Yassin et al.'s (2013) study attempted to address actual application, whereby they sought to identify metacognitive skills used by teachers and their students in a reading class. The participants were six Arabic language teachers of grade ten and their students at six schools in the city of Irbid in Jordan. For the purpose of data collection, structured classroom observations were applied. The observation form list focused on three main skills, including: planning skill (6 items); monitoring and controlling skills (8 items); and evaluating skill (3 items). The findings demonstrated the dominance of planning and monitoring skills, however, within both fields it was noticed that some sub-skills were missing; and some skills were highly centred upon at the expense of other. Furthermore, the findings revealed a very low level of the appearance and application of the evaluating skills.

In a similar manner, Doganay and Ozturk's (2011) study focused on teachers' actual teaching practices. The main purpose of this case study was investigating whether there is a difference between experienced and inexperienced elementary school teachers' science and technology teaching processes in terms of using metacognitive strategies. Fourteen elementary school teachers participated; seven experienced teachers and seven inexperienced. To carry out this inquiry, unstructured classroom observations and semi-structured interviews were utilised. The findings showed, on the one hand, that the experienced teachers employed more activities concerning metacognition before, during and after the teaching process. Moreover, they addressed more metacognitive skills in their teaching, such as planning, observation, and organisation. Experienced teachers applied some strategies that were likely to encourage students' metacognition, such as asking questions that focus on their own thinking processes, or providing practical activities that allowed them to transfer what they learnt in the classroom to their real-life context. The experienced teachers also showed adequate comprehensive knowledge and application of conditional and operational knowledge as well as evaluation skills. Moreover, they tend to make more detailed preparations as well as preferring to plan and deploy students-centred classes.

In contrast, the findings revealed that inexperienced teachers used a limited number of metacognitive strategies during their teaching process. It was also observed that novice teachers tended mostly to apply traditional teaching methods, such as lecturing and therefore, they plan their classes accordingly. Moreover, it was noticed that whilst the metacognitive strategies used by the experienced teachers were not continuously implemented, they were not utilised at all by the novices. Also, the inexperienced teachers mainly focused on content. They were worried about their time schedule, so they were unable to observe their students' learning process, and thus, develop skills that would help them to be able to regulate their thinking and learning. Furthermore, they were not good at giving feedback or overcoming learning difficulties. Like Velzen's (2012) inference, Doganay and Ozturk's study highlighted the role that teaching experience can play regarding the development of students' metacognition. This resonates with Lee, Teo, and Chai's (2010) conclusion that teaching experience increases teachers' levels of metacognition.

However, Doganay and Ozturk admitted that the experienced teachers were equipped with highly expert qualifications as well as long teaching careers and hence, were experienced. Thus, they recommended that teacher education programmes should train students in a way that enables them to apply metacognitive strategies in their classroom teaching; because this training will provide them with planning, self-monitoring, and self-evaluating will contribute to their becoming independent learners and good role-models for their own students in the future (Doganay & Demir, 2011). Doganay and Ozturk (2011) also contended that there is a need for studies covering students' achievements and their points of view concerning teachers' application of metacognition. Building on this, I suggest there is a need to obtain information about the factors and approaches that would contribute to the placement, application and development of metacognition in HE, especially those that can influence the metacognition of university lecturers and undergraduate students.

Integrating metacognition within the teaching of a subject/course is seen in the literature as an important approach that could contribute to the development of students' metacognition. Ben-David and Orion's (2013) study investigated science teachers' perspectives of the integration of metacognition into science education. It showed that teachers do not understand metacognition, but would like support to integrate it into their teaching practice. The participants were 44 elementary school science teachers, of both genders and with wide teaching experience. The teachers attended a teacher-training (INST) programme. In this study, the INST programme focused on the teachers' learning about metacognition and making a change in their thinking, rather than altering their actions or practice in the classroom. The study utilised a qualitative approach and the data collection process involved using multi-methods including: teacher discussions, teachers' written reflections and semi-structured individual interviews. The findings showed that at the beginning of the programme, 40 teachers were not at all familiar with the term 'metacognition'; they could not say or write anything about it, or if they did, they provided wrong answers. Even those who were familiar with the term were unable to explain it clearly or provided examples in relation to it. Moreover, their pedagogical thinking about metacognition was unsatisfactory and incomplete. They also seemed to have a negative attitude toward metacognition.

However, after attending the INST programme, the findings demonstrated that (a) the teachers expressed how the significance of metacognition had been invisible to them; (b) the affective feature of metacognitive experiences was identified by them as the most important aspect in that it plays a mediator role between learning and teaching; (c) the teachers acknowledged the absence of supportive in-classroom guidance regarding metacognition and the complete lack of learning materials addressing it as the basic obstacles facing the implementation of it; (d) further, educators reported that they wished to pursue training and experience to better equip them to implement metacognition as key learning in the science department. This is in line with Veenman et al (2006) arguing that educators are willing and interested to make efforts in the teaching of metacognition within their lessons once they grasp its value. However, they need training materials for applying metacognition as an integral part of their lessons, and for raising students' awareness of their metacognitive activities and the usefulness of those activities. Ben-David and Orion recommended conducting research that included observation of teachers in their instruction/classroom.

Indeed, Ben-David and Orion's study findings revealed some challenges that obstruct the encouragement or application of metacognition in the classrooms. Hence, this finding might emphasise the need to explore the potential factors that limit the development of students' metacognition.

2.3.5 Metacognition from a Social Constructivist Perspective

According to Palincsar (1998) social constructivist perspectives focus on the interrelation between individual and social processes in the "co-construction of knowledge" (p. 345). Metacognition refers to one's awareness of his/her cognitive processes and the capability to control and regulate them in the learning process (Hartman, 2001b; Schraw & Moshman, 1995; Veenman et al., 2006). However, metacognition is also seen as a social activity that can be developed through students' interaction with teachers and/or interaction with peers or other students (Hurme, Palonen, & Javela, 2006). For social constructivists, knowledge is built through discourse in communities of practice

(Lave & Wenger, 1991; Palincsar, 1998). This is in line with Vygotsky's notion of learning, although, he did not use the term metacognition. Swan (2005) stated,

> …Vygotsky maintained that, while taking place in individual minds, all learning results from social interaction, and that meaning is socially constructed through communication activity, and interactions with others. He believed that cognitive skills and patterns of thinking are … the products of the activities practiced in the social institutions of the culture in which the individual lives (Swan, 2005, p. 4).

This could be applied to the construction of students' metacognition, and the role that the learning context surrounding the student, including educators, could play in the construction of students' metacognition. According to Palincsar (1998), teaching is about shaping the learner through instructional procedures such as modelling to encourage "closer approximations" of the learning outcome (p. 376). He added that classroom discussions are seen by social constructivists as enhancing higher-order thinking. The term higher-order thinking here refers to cognitive activities that are beyond the stage of recall and comprehension in Bloom's (1956) taxonomy, such as analysing, synthesising, and evaluating (Zohar, 2006). Indeed, higher-order thinking could be seen as part of the regulation of cognition as it involves regulatory skills or metacognitive skills such as evaluating.

Thus, from a social constructivist perspective, through educators' teaching practices and classrooms' activities that encourage thinking, reflecting, and evaluating, students are likely to develop and construct adequate metacognitive abilities. Making thinking processes visible (i.e. modelling, dialogue, etc.), or engaging students in a discussion or collective or cooperative activities with the lecturer or peers concerning their thinking/learning processes would promote their metacognition. In this respect, Lajoie (2008) stated the student might also learn about how to set goals, determine strategies to achieve the goals, check and evaluate progress; and that through the interaction of such processes, metacognitive skills are developed. Thus, there is a necessity to understand the teaching practice required to develop students' metacognition.

2.4 Metacognition in Higher Education (HE)

According to Cornford (2002):

> … Effective learning through the lifespan is dependent upon effective information processing and possession and quality of basic learning-to-learn skills and knowledge centred upon cognitive and metacognitive skills. Without establishment of such skills learning may not occur, or more realistically will occur with more effort and less effectively than if individuals have a good repertoire of the most effective skills and make use of them (Cornford, 2002, p. 358).

Despite the importance of metacognition in higher education as a mediator for high-level and successful learning being widely recognised (Hacker, 1998), the majority of students in HE possess insufficient levels of metacognitive knowledge and metacognitive regulatory skills; they lack the ability to regulate and control their learning and thinking in an adequate manner (De Backer, Van Keer, & Valcke, 2012). A possible explanation for students' lack of metacognitive ability could be attributed to the neglect of, or inadequate consideration given to lifelong learning skills, including cognitive and metacognitive skills, in teaching practice (Cornford, 2002; Watson, 2000). Cornford (2002) further claimed that there is little evidence of cognitive and metacognitive skills being taught widely or effectively at all levels of education. It seems that such an argument and similar ones, have encouraged research concerning metacognition in different educational phases including HE. University students have become a subject of investigation in a number of metacognition studies.

In what follows, I present the literature concerning HE context divided into two main categories: metacognition and undergraduate students, and metacognition and the university lecturer.

2.4.1 Metacognition and Undergraduate Students

In this subsection, I review the literature investigating metacognitive skills or metacognitive strategies in HE, as some of these research studies used both terms interchangeably. However, research addressing specific metacognitive skills or strategies related to specific subject areas, such as reading, mathematics or language learning is excluded. Research investigating metacognition in general or metacognitive awareness is included, because metacognitive awareness comprises three categories: thinking of one's own

thinking and what one knows or metacognitive knowledge; thinking of what one's current effective or affective state is or metacognitive experience; and thinking of what one is currently doing or metacognitive skills (Hacker, 1998). Research showed that the combining of the metacognition dimensions in the literature could be attributed to the fact that these components are highly correlated with each other and serve the same purpose. The literature review in this part is discussed under the following categories:

2.4.1.1. Assessment of students' metacognition level
2.4.1.2. Metacognition and academic achievement
2.4.1.3. Teaching or improving undergraduate students' metacognition

2.4.1.1 Assessment of Students' Metacognition Level

One line of research has focused on measuring students' levels of awareness or use of metacognition, in general, or metacognitive skills in particular (Abu-Latifa, 2015; Al-Zoubi, 2013; Memnum, 2013; Oz, 2015; Yesilyurt, 2013). However, many of these use only a survey method and not classroom observation, and so perhaps do not provide an objective, reliable basis for conclusions about students' levels of metacognition.

Nevertheless, the assessment of students' metacognition is a valuable approach, as it might evidence a necessity to make changes to help students and facilitate their development as metacognitive learners. In this regard, Harpe and Radloff (2000) believe that assessment can inform and contribute to teaching, learning and assessment practices that reinforce lifelong learning. It could also raise educators' awareness of the need to encourage students' metacognition.

Abu-Latifa's (2015) study found that students did not score highly on his metacognition scale. He surveyed one hundred students studying at a college of education in KSA on a metacognition thinking scale he developed. The scale consists of 32 items divided into three areas: knowledge of cognition (11 items), regulation of cognition, focusing on planning and monitoring skills (10 items) and evaluating of cognition (11 items). The researcher attributed students' scores to the traditional teaching methods that are usually applied by faculty members. He further argued that the absence of active teaching methods, such

as discussion, dialogue and thinking questions has contributed to low levels of metacognition.

Similar results were reported by Yesilyurt's (2013) study that sought to evaluate the level of the use of metacognitive strategies by pre-service teachers studying in the college of education of a university in Turkey. The "Metacognitive Learning Strategies Scale" developed by Namlu (2004) was distributed to 291 candidate teachers to collect data concerning the level of using planning, organisation, controlling and evaluation strategies. The results revealed that the study's sample exhibit "nearly a medium level" of metacognitive strategies (p. 218). According to Yesilyurt, candidate teachers still fail to use the highest level of metacognitive strategies. Additional analysis revealed that candidate teachers used organisation, controlling and evaluation strategies more than the planning strategy. Yesilyurt thus suggests that for candidate teachers to use metacognitive strategies at the highest level, they would be using all these strategies consistently. However, Yesilyurt failed to provide any reason for this lack of metacognition amongst the teachers.

Memnun's (2013) study findings were in line with those reported by Abu-Latifa and Yesilyurt. Memnun firstly, attempted to measure the level of metacognitive awareness of 104 American and 11 Turkish students, studying at Georgia State University in the USA, and Uludag University in Turkey. Secondly, he compared both groups' level of metacognitive awareness dimensions, and sub-dimensions relating to their metacognitive awareness. Both groups of the study sample were enrolled in undergraduate programmes of elementary education. To meet the study purposes, the 'Metacognitive Awareness Inventory' (Schraw & Dennison, 1994) was utilised to collect data from the American students and the Turkish version of this scale (Akin et al., 2007) was deployed with that respective sample. The results indicated that metacognitive awareness of both groups was similar; and their level of metacognitive awareness was medium. Thus, it was concluded there is a need to further develop metacognitive awareness in both Turkish and American students. The results also showed that the levels of knowledge of cognition and regulation of cognition dimensions of American students were higher than Turkish students. The researcher attributed this result to the educational system in the respective countries.

Different results were observed by Oz's (2015) study that showed that the majority of pre-service teacher participants showed a very high level of metacognitive awareness. The author set out to discover the level of metacognitive awareness of 87 pre-service English teachers studying in a university in Turkey. Data were collected during the period that the participants were undertaking their teaching practice in state schools, through the application of the 'Metacognitive Awareness Inventory for Teachers' (MAIT). The MAIT survey used was adopted from Schraw and Dennison's (1994) scale. It comprises 24 items; 12 for assessing knowledge of cognition and 12 for assessing metacognitive skills, including planning, monitoring and evaluating skills. Whilst the researcher did not provided reasoning to explain the result, he concluded that there is a need to develop metacognition, for in doing so pre-service teachers will be more metacognitively aware of their teaching practices.

Similar results to Oz (2015) were observed by Al-Zoubi (2013), as his study results' indicated a high level of metacognitive skills among students. In his study, he utilised the 'Jordanian Metacognitive Thinking Scale' to examine the level of metacognitive skills among 282 undergraduate students majoring in special education in the college of education at a university in KSA. The scale comprised 52 items distributed into three categories: regulation of cognition, knowledge of cognition, and cognition processing. Unlike Oz, Al-Zoubi listed several reasons that may have contributed to the students' high levels of metacognitive skills, such as non-traditional teaching methods and the application of active teaching methods, such as discussions that usually take place in the lecture rooms where his study was conducted. Additionally, faculty members knew the need to develop students' thinking skills and self-directed learning.

Considering the above mentioned studies, it can be noted that most of the evidence related to measuring students' metacognition levels in higher education has been derived from utilising a survey methodology, which might be considered by some researchers as an appropriate approach to meet such aims. However, these self-assessment scales of metacognition can be criticised as unreliable measures, as subjective self-assessment is not necessarily a reflection of objective reality.

Rahman and Masrur (2011), and Veenman et al. (2006) pointed out that there are several methods that have been used to measure metacognition. These include questionnaires, interviews, the analysis of thinking-aloud protocols, observations, stimulated recall, on-line computer-log file registration, and eye-movement registration (Veenman et al., 2006).

However, these methods still have some serious problems of validity and reliability (Rahman & Masrur, 2011) and have various positive and negative aspects (Akturk & Sahin, 2011; Veenman et al., 2006). The survey or questionnaire method, for instance, used so often as a technique of measuring metacognition, is easy to be administered to large groups and to analyse (Akturk & Sahin, 2011; VanZile-Tamsen, 1996; Veenman et al., 2006). Through the use of questionnaires, the researcher can ensure that all students are given equal opportunity to respond (Akture & Sahin, 2011). However, responses may be biased towards answers which participants believe will elicit a positive reaction, regardless of what they may otherwise do or think (VanZile-Tamsen, 1996). Further, students may also differ in their understanding of the questions and this can cause problems for data analysis. These factors may limit the usefulness of results from questionnaires limit the usefulness of such results (VanZile-Tamsen, 1996).

Assessing metacognition is not an easy task (Rahman & Masrur, 2011). As metacognition is a complex construct it is difficult to propose a single method of assessment (Akturk & Sahin, 2011). Therefore, utilising further instruments, such as interviews, might provide further explanations regarding students' metacognition abilities. For instance, Scott (2008) asserts that interviews have the advantage of allowing students to give further details on their responses, reaching beyond the pre-written answers of a closed questionnaire. With regards to metacognition, however, this may be ill-suited to a school setting as it is time consuming (Scoot, 2008). Whilst interviews may provide a wider scope for questions and answers, there is always the risk that students lack the self-awareness of their own cognition, or may be unable to describe their experiences adequately: this may limit results significantly (VanZile-Tamsen, 1996).

Another way to assess or measure students' metacognition is using a system of 'think aloud', where students verbalise their thinking whilst doing a task. However, this process may limit the extent to which the students can absorb information if they are communicating simultaneously. Further, while effective in controlled environments, it is unlikely to prove successful in the school setting as a whole class cannot all speak out loud as they perform their tasks in a standard classroom (Akturk & Sahin, 2011; Scott, 2008). Therefore, using a number of approaches, which have differing advantages and disadvantages might be the key to collecting reliable results regarding metacognition (Garner & Alexander, 1989).

Research considering faculty members' perceptions, might offer more thorough analysis and interpretations regarding students' levels of metacognition. Abu-Latifa (2015) and Al-Zoubi's (2013) studies were both conducted in higher education in the Saudi context and their conclusions consequently drew my attention to the necessity to explore university lecturers' teaching practices in relation to the development of students' metacognition. In this respect, Zhang and Seepho (2013) argue that educators can play a key role in raising students' metacognitive awareness and encouraging the acquisition and use of metacognitive skills.

2.4.1.2 Metacognition and Academic Achievement

Mixed results have been reported regarding the influence of metacognition on students' academic success (Abdolhosseini et al., 2011; Abu-Latifa, 2015; Gul & Shezad, 2012; Kuhn, 2000). For example, Abdolhosseini et al.'s (2011) study investigated the effect of instructing metacognitive and cognitive strategies on academic progress in medical science. The sample was 120 students studying in Ilam University in India, covering four majors: nursing, occupational health, family health and medicine. To carry out the study, a quasi-experimental design was used, including a pre/post-test; the students also attended six metacognitive and cognitive strategies classes held by the researchers. The metacognitive strategies comprised three main categories; (1) planning strategies, (2) control and supervision strategies, and (3) ordering strategies, each of which had its sub-categories. Data were analysed quantitatively. The

results indicated a positive impact of instruction in cognitive and metacognitive strategies on students' academic progress. I note that the researchers claimed that they are interested in finding out "how instruction of strategies affects academic progress" (p. 245). Hence, I would argue that involving a qualitative method would be more appropriate to explain how cognitive and metacognitive strategies have this positive influence on the academic achievement. The researchers concluded that direct instruction of metacognitive and cognitive strategies plays an important role in academic success. A positive relationship between metacognition and students' academic achievement was also confirmed by Coutinho (2007), who found that students with good metacognition have good GPA's (Grade Point Average).

In contrast, the results from Abu-Latifa's (2015) study showed no statistically significant difference in metacognition level due to academic achievement. This is in line with findings reported by Gul and Shezad (2012), who examined the relationship between metacognition, goal orientation and academic success of 345 students from two public and two private universities in Pakistan. Data collected through surveys included three sections, with the first part including 25 items of the goal orientation inventory. The second section comprised the 'Metacognition Awareness Inventory (MAI)' developed by Schraw and Dennison (1994) and investigated: planning, monitoring, management and evaluating skills. The third section requested demographic information. The results indicated a weak relationship between metacognition and students' academic achievement. The researchers, however, admitted that survey reflected student's self-perception, rather than actual use of metacognition. Abdolhosseini et al.'s (2011) conclusion confirmed Kuhn's (2000) argument that metacognitive knowledge and metacognitive skills are teachable and trainable and, therefore, there is a need to include them in the classroom environment as well as teaching students how to be metacognitive learners. In the subsection that follows I present some research concerning the teaching of or improvement regarding students' metacognition.

2.4.1.3 Teaching or Improving Undergraduate Students' Metacognition

Research has shown that both dimensions of metacognition (knowledge of cognition and regulation of cognition) can be taught. For example, Schraw (1998) argued it is possible to enhance metacognition, namely, knowledge of cognition and regulation of cognition, through classroom instructional practices. Similarly, Akturk and Sahin (2011) argued that teachers should utilise techniques and methods in their lessons to improve students' use of metacognitive strategies.

In this context, a line of research studies has focused on examining or suggesting some teaching approaches that could contribute to the development of students' metacognition. Vrieling, Bastiaens, and Stijnen (2012) contended that some teaching methods and procedures challenge students' thinking and encourage them to think about their own thinking or metacognition. Direct instructions, problem-based learning, problem-solving, prompting, reciprocal peer tutoring, cooperative learning and self-regulation are examples of teaching methods or approaches that are believed to enhance students' metacognition (Abdolhosseini et al, 2011; Downing, Kwong, Chan, & Lam, 2009; Sandi-Urena et al., 2011; Vrieling et al., 2012; Wen, 2012).

Downing et al.'s (2009) study showed that problem-based learning (PBL) has a significant impact on the development of students' metacognition. Data were collected from students in their first academic year on two programmes at a Hong Kong university; one using more traditional teaching methods, while the other was pursuing an entirely problem-based technique to teaching and learning. Students' perceptions of their metacognition were collected via the second edition of 'Learning and Study Strategies Inventory (LASSI)' (Weinstein & Palmer 2002). One of the scale components is self-regulation that measured how the students self-regulated and controlled or managed the whole learning or thinking process. The results demonstrated that PBL students, in comparison to those with a non-PBL approach, developed the ability to process ideas and deal with them by mentally elaborating upon them and then organising them in very meaningful ways. The researchers concluded that there should be a well-designed PBL environment in order to develop students' metacognition.

A collaborative learning approach is considered an effective technique regarding the development of a learner's metacognitive skills. Sandi-Urena et

al.'s (2011) study investigated the effectiveness of a collaborative intervention in developing college students' awareness and use of metacognition. The intervention 'Problem-Solving Activity' was aimed at promoting students' awareness and use of metacognitive regulatory skills, namely; planning, monitoring, and evaluating. It consisted of three phases: a collaborative work session; an individual component 'home assignment' and an individual feedback component. The study sample consisted of 464 students "enrolled on the General Chemistry 1 Laboratory course at a US-south research university" (p. 331). Multi-method assessment was used to collect data including: a self-report 'Metacognitive Activities Inventory' (MCAL) and a concurrent, web-based tool (IMMEX, Interactive Multimedia Exercises), followed by a quasi-experimental design, including experimental and control groups. None of the instructors were part of the research team, although they were aware of the data collection processes. The results showed a significant increase in metacognition awareness and metacognitive skills in favour of the experimental group. In general, the results show that involvement in a collaborative group increased the use of metacognitive skills. The researchers suggested that a combination of prompting and small groups led to this improvement, because these strategies made the students stop, think and then question.

Another specific type of collaborative learning that can contribute to the development of students' metacognition is reciprocal peer tutoring (Palinscar & Brown, 1983). De Backer et al's (2012) study showed that a reciprocal peer tutoring (RPT) intervention significantly improved participants' metacognition. The study aimed at exploring the potential influence of RPT in the promotion of 67 university students' metacognition knowledge and metacognitive skills. The participants were first-year educational sciences students tutoring each other in a face-to-face context for a period of nine weeks. The intervention, called 'Instructional Science Course', consisted of eight sessions plus a training session. The acquisition of metacognitive skills was one of the focuses of the training programme. RPT sessions of all groups were observed weekly, to monitor whether the students adequately enacted their tutee and tutor role and to provide immediate feedback, if inadequate behaviour occurred, to ensure the accuracy of the treatment. Multi-methods design was applied to collect data including pre/post testing with the 'Metacognitive Awareness Inventory (MAI)'

(Schraw & Dennision, 1994) and self-report questionnaires to assess the students' metacognitive knowledge and their perception of metacognitive skills use. Think-aloud protocols were also utilised to obtain insight into students' actual use of metacognitive skills. The results reported that there was a significant change in the students' actual metacognitive regulation in the post-test they showed more use and diversity in relation to metacognitive regulation, in particular, during the evaluation, monitoring and orientation phases. The authors attributed the outcomes to the intervention applied in the study that appeared to have had a remarkable effect on the participants' awareness and use of metacognition.

Vrieling et al.'s (2012) study showed that self-regulation learning (SRL) can also increase metacognitive skills. Their study was carried out in a college of education in the Netherlands. The study participants were three teacher educators and 136 first-year student teachers. To meet the purpose of the study, the former were required to participate in training courses and tutorial conversations designed to increase the latter's self-regulation learning opportunities in the curriculum. Three instruments were employed to collect data, the 'SRL Opportunities Questionnaire' measured the student teachers' SRL opportunities; the 'Motivation and Metacognition Questionnaire' was used to measure their use of metacognitive skills and motivation for learning; and there were interviews with both the teacher educators and student teachers. The findings showed that increasing SRL opportunities in a learning environment led to an increase in the student teachers' use of metacognitive skills. Analysis of the interview data revealed that the student teachers were often unaware of their usage or application of metacognitive skills. Similar to Abdolhosseini et al. (2011), Vrieling and his colleagues concluded that there is a need to provide student teachers with more explicit metacognitive strategy instruction to develop their metacognitive skills. The researchers attributed part of this positive impact to teacher educators.

In general, the findings of the aforementioned studies lend support to the claim that metacognition can be taught. They further highlight the role that educators can play in developing students' metacognition (Vrieling et al., 2012) and therefore, educators should teach as well as apply metacognition in their teaching practices (Abdolhosseini et al., 2011). In this regard, Prytula (2012)

argued that there is a necessity to apply the results from research about teacher metacognition to in-service teacher and pre-service teacher education so there is increased attention on metacognition over mastery of skills or thinking over memorisation. Below, I provide examples from the literature exploring university teachers' understanding, application or teaching of metacognition.

2.4.2 Metacognition and University Lecturers

Reviewing the relevant literature yielded few studies relating to university lecturers' awareness and application of metacognition. One example is Wen's (2012) study which found few participants were able to provide a comprehensive definition of metacognition. He sought to find out how metacognitive skills are taught to students and pre-service teachers, from the perspective of university teachers. Twenty-one university lecturers participated (15 American, 6 Taiwanese). A semi-structured interview was utilised to collect data. Critically, few US participants were could adequately define metacognition. Moreover, the Taiwanese lecturers described metacognition more appropriately than the American ones. Wen attributed this finding to the fact that the Taiwanese participants had taught "educational practicum" (p. 84) classes, and thus, they were practised in the use of metacognition on a regular basis.

The findings further showed that fifteen strategies were used to teach students and pre-service teachers, including videotaping/tape recording, reciprocal teaching, thinking aloud, asking to think, mapping concepts, problem-solving, presenting, writing, direct instruction, modelling, discussion, journal, reading books, coaching and questioning. Further evidence revealed that lecturers used few metacognitive strategies in their teaching (e.g. planning, monitoring, evaluating). The researcher identified the need to discuss the definition of metacognition with college teachers. He added that college teachers need to learn more about metacognitive skills and to learn how to apply them in their own teaching. This matches Veenman et al.'s (2006) argument that many educators lack sufficient knowledge and awareness of metacognition and of how to apply it in their teaching.

According to Velzen (2012), teacher educators' awareness about metacognitive knowledge can improve the teaching of it. Velzen's (2012) study findings demonstrated that teacher educators who participated in his study had some awareness of metacognition and developing expertise; and he attributed this to their teaching experience. His exploratory study aimed at investigating teacher educators' perspectives about their experiences concerning the teaching of metacognitive knowledge and developing expertise. The researcher sought to obtain participants who provide graduate courses to prospective teachers, and who also have experience teaching in high-schools. As stated by Velzen, the latter is related to the ability of teachers to express their own understandings of the learning and metacognitive patterns demonstrated by students at a high school level. Six teacher educators (three females and three males) from different disciplines (mathematics, economics, history, and languages) participated in the study. Data were collected through a questionnaire comprised of closed-ended (18 questions) and open-ended (29 questions) developed by the researcher to explore teacher educators' experience concerning teaching metacognitive knowledge (i.e. knowledge of the self, knowledge of tasks, and knowledge of cognition) and developing expertise (i.e. knowledge of using higher-order thinking skills, knowledge of expertise in problem solving, and knowledge of expert students). Findings indicated that knowledge of cognition, knowledge of the self, and knowledge of expertise in problem solving are used more frequently within classrooms activities.

Velzen's (2012) findings also indicated that teacher educators acknowledged the challenges faced by the majority of students in turning unconscious patterns into conscious thought, as well as noting the importance of information through rapid rote learning alone. Further, the findings indicated that teacher educators attempted to accommodate metacognition and tried to make students aware of their own learning. However, teacher educators highlighted some restrictions and conditions impinging on the teaching of metacognitive knowledge and developing expertise, such as teaching conditions and student characteristics. In terms of the specifics of the students, it does not seem that any one trait aids the formation of a metacognitive strategy. When teaching metacognition and raising classroom awareness, the teacher should focus on the timing of the cognition and how it is being practiced. In sum, when is it most useful for

metacognition to be addressed and which methods are the most effective, and for the teaching to facilitate students' progress by acknowledging the barriers to learning. Responses from teachers indicated a lack of confidence in how to combine standard teaching with metacognition.

Joseph (2009) argues that university lecturers and school teachers need to have an adequate awareness and experience of applying metacognition and metacognitive skills, so that they may analyse their own tasks, how they approach tasks and their final answers. Educators' awareness of metacognition would further enable them to teach metacognition to their students and help their students to be metacognitive learners. It is the opinion of Memnum (2013) that knowledge of metacognition can aid teachers in expressing concepts adequately to students, facilitating their metacognitive growth.

The following section provides a summary of the literature mentioned above, which investigated educators' teaching practices as well as higher education in KSA, followed by research questions that will guide the current study.

2.5 Summary of Literature Review

The literature reviewed above has suggested that teachers are largely unaware of metacognition and find it challenging to create pedagogical strategies for facilitating it in the classroom. Research further indicates a relationship between lecturers' and students' metacognition. It suggests that teachers/lecturers' teaching methods or approaches can encourage or discourage students' metacognition. In HE studies have often focused on questionnaire data and there is a need for further research understanding the challenges and opportunities teachers in HE face in fostering metacognition from their own perspectives as well as the students' perspectives.

Thus, my study will investigate the presence and promotion of metacognitive skills in lecturers' teaching practices from the perspectives of both lecturers and undergraduate students. It will utilise classroom observation, semi-structured interviews, and group interview techniques to overcome the limitations of previous studies which have tended to use fewer of these methods. I also

observed that little has been written about how metacognition can be enhanced and developed. Therefore, this matter has become one of the current study's interests.

In conclusion, taking into account the above discussion of literature, I attempted to fill the gap in the metacognition literature in the context of higher education by exploring the presence and promotion of metacognitive skills in lecturers' teaching practices so as to address the following research questions.

2.6 Research Questions

1. How do lecturers in the college of education (COE) at a university in the Kingdom of Saudi Arabia (KSA) understand metacognition?
2. To what extent do the lecturers promote students' metacognitive skills during their class sessions, from lecturers' perspectives?
3. What are undergraduate students' perceptions of whether and how metacognitive skills are being promoted at the COE at this university in KSA?
4. What are the perceived impediments, if any, regarding the promotion of metacognition in the university setting from the lecturers' and students' perspectives?
5. How can metacognition be incorporated and fostered in HE in KSA from the lecturers' and students' perspectives?

2.7 Summary of the Chapter

This chapter has presented an overview of metacognition and has also provided some evidence regarding the importance of metacognition in students' education. Moreover, a number of research studies concerning metacognition in higher education as well as those associated with metacognition and educators' teaching practices have been reviewed. The discussion of national and international literature presented above has deepened my understanding and helped me identify the gap in literature, determine the issues of interest as well as formulate the research questions.

3 Chapter Three: The Research Design and Methodology

3.1 Overview of the Chapter

In this study I explore the perceptions of lecturers and undergraduate students at a Saudi College of Education with regard to the presence and promotion of metacognitive skills in the lecturers' teaching practices. I set out to explain the research design and the theoretical and philosophical assumptions of this inquiry. Table 3.1 (below) summarises the research questions, data collection methods, and data analysis techniques.

Table 3.1 Research Questions, Data Collection Methods and Data Analysis Techniques

Research Questions	Data Collection Methods	Data Analysis Methods
How do lecturers in the college of education (COE) at a university in the Kingdome of Saudi Arabia (KSA) understand metacognition?	Semi-structured interviews	An analysis of the texts seeking themes using inductive and deductive approaches
To what extent do the lectures promote students' metacognitive skills during their class sessions from lecturers' perspectives?	Classroom observations Semi-structured interviews	An analysis of the texts seeking themes using inductive and deductive approaches
What are undergraduate students' perceptions of whether and how metacognitive skills are being promoted at the COE at this university in KSA?	Classroom observations Group interviews	An analysis of the texts seeking themes using inductive and deductive approaches
What are the perceived impediments, if any, regarding the promotion of metacognition in the university setting from the lecturers' and students' perspectives?	Classroom observations Semi-structured interviews Group interviews	An analysis of the texts seeking themes using inductive and deductive approaches
How can metacognition be incorporated and fostered in higher education in KSA from the lecturers' and students' perspectives?	Semi-structured interviews Group interviews	An analysis of the texts seeking themes using inductive and deductive approaches

3.2 Theoretical and Philosophical Assumptions

It is important for any academic research to define the theoretical and philosophical assumptions upon which the issues of concern are to be approached and understood. This research was carried out according to an interpretive framework. According to Naughton, Rolf, and Blatchford (2010), interpretivism aims to clarify people's perceptions and interpretations of their context, or what is alternatively known as their social surrounding. The interpretive approach is particularly popular among qualitative researchers as it allows them to probe into the complex nature of experience seen through the eyes of those who live it (Schwandt, 1994).

To this effect, Radnor (2001) states that the underlying intention of interpretive research is to attempt to make sense of the research participants' environments and the significance thereof. What is distinctive about interpretivism is its explanatory power that can provide illuminating insights into human experiences (Radnor, 2001). Following these lines of thoughts as well as the position that individuals' perceptions of an issue has an impact on the way they approach and interpret the issue, an interpretive approach was adopted. Participants' responses to the research questions of this study, therefore, gave voice to a group of lecturers and undergraduate students in the specific context of this study (Fisher & Wood, 2012).

In what follows, the study's ontological and epistemological stances are discussed. The clarification of these stances, before engaging in any research project, is paramount to an academically sound research design, findings, and results (Creswell, Hanson, Plano, & Morales, 2007; Guba & Lincoln, 1994). To present the ontological and epistemological bases for a study is to make obvious the factors effecting the researcher's worldview, i.e. the researcher's understanding of the essence of reality and knowledge (Morgan, 2007).

3.2.1 Ontological Assumption

Ontology is an attempt to answer questions about the origin and nature of reality and what can possibly be ascertained from it (Guba & Lincoln, 1994). In the interpretive approach, my ontological stance is subjectivist, which renders

reality relative, differing from one person to another (Guba & Lincoln, 1994). Holding this view, I, like many researchers e.g. Rowlands (2005), believe that experience of the world is subjective in nature. Accordingly, I believe that to try to understand reality necessitates an investigation of the individual's subjective meaning of it rather than an adoption of an objective outlook by the researcher.

I adopted an interpretive approach. Interpretivism views the researcher as an integral part of the research process (Larkin, Watts, & Clifton, 2006). I approached it this way because the focus of this study was on the personal construction of the application of metacognitive skills, i.e. individuals' perceptions of the presence and promotion of metacognitive skills. The involvement of my subjectivity and personal experience as well as the participants' subjectivity and personal experience was essential to the nature of this inquiry. Rather, reflexivity on the side of the researcher can be a powerful tool capable of enlightening the understanding of a particular research context (Romanowski & Nasser, 2012).

3.2.2 Epistemological Assumptions

I selected constructionism to form the epistemological basis, taking into consideration the ontological stance adopted here, the interpretive approach, and the primary purpose of the study, examining personal perceptions. Constructionism holds that reality or meaning is constructed as a result of our interaction with the realities in our world (Crotty, 2003). Creation of meaning, from a constructionist point of view, cannot occur independently or outside of our minds, for example in the KSA, which is a society profoundly influenced and guided by Islam. It is the direct outcome of the relationship and interaction between our minds and subjects/objects (Guba & Lincoln, 1994). In this regard, I perceive reality as socially constructed. Consequently, I stress the importance of communication between myself as the researcher and the participants for meaning-construction purposes (Radnor, 2001).

Based on the above assumptions, seeking to answer the research questions raised in this inquiry could not be viable unless there was an interaction between myself (as the researcher), and the lecturers and undergraduate

students (as the research participants). Thus, I did not stand outside the world of the participants. Rather, I engaged with them through classroom observations; I also conducted individual interviews and group interviews and constructed meanings through the interpretation of their words and actions. This interpretation is an important part of the job of an interpretive researcher who has to make the participants' world comprehensible by drawing out meanings infused within them (Radnor, 2001). In sum, the interpretive approach allowed me to present the participants' constructions of reality while contributing my own (Guba & Lincoln, 1994; Walshman, 1995).

In the research methodology literature, many, e.g. (Rowlands, 2005), believe that the adopted philosophical and theoretical assumptions of a project may play a decisive role in the choice of its research design, which I will discuss later in this chapter.

3.2.3 Reflexivity

In this section, I share my research story, reflect on it, and highlight what I learned from it. Conducting this research was not an easy task for several reasons. For example, my cultural and educational background; I am an international student, majoring in Home Economics Education, and had not studied previously in any language other than the Arabic language. This point particularly created a sense of anxiety and lack of confidence. At the beginning of my research, I tended to be a listener more than a speaker, to avoid embarrassment and lack of understanding. However, I subsequently realised this would not help me, I need to discuss, express and clarify my thoughts to my supervisors. Thus, I started preparing and writing my questions, notes, and ideas on a piece of paper to discuss with my supervisors and benefit as much as I could from meetings.

Like most postgraduate students, I faced the challenge of identifying the focus of my study. The aspiration of investigating the issue of interest came from a discussion with my Ph.D. supervisors. Initially I was intending to research critical thinking but having visited the proposed site of the research and in reflecting on KSA's new vision of education it became more apparent to me that

a change to metacognition would enable me to make a better contribution to education KSA.

I then identified the research questions and the title and prepared a short plan that included the paradigm/approach, participants, methodology, and methods of data collection and analysis. I viewed several Ph.D. theses which have similar interests, and in discussion with my supervisors I chose a case study methodology as this would give me the opportunity to examine a number of classrooms in depth This taught me that my decisions as a researcher should be built on good understanding and knowledge, and supervisors' advice.

Through discussion with colleagues and supervisors, I was helped express to my thoughts and clarify my understanding. Consequently I was able to firstly locate my own view of the world (ontology) and the nature of knowledge (epistemology) within an appropriate research approach. I was interested in understanding and exploring the issue under study from the perspective and interpretations of those involved in it, i.e. lecturers and students, rather than drawing my conclusion based on other researchers' perceptions or assumptions. Also, my goal was not to make changes or offer an alternative to the present situation of the application or promotion of students' metacognitive skills. Hence, I realised an interpretive approach to research was the most appropriate; especially as this issue has not been investigated in KSA before.

Conducting a qualitative study was not easy. For instance, when I started data collection phase, I knew I would have to face sensitive situations. According to my knowledge about the KSA context, educators might not welcome being observed. They might see this technique as a way of evaluation or comparison. This was later confirmed when a lecturer asked what I was writing during an observation, and whether I was recording that the teaching was poor. I explained that I was there to do research and to learn from the lecturers, and that moreover, I was familiar with being an educator, as I was a teacher in a high school and experienced a similar situation in which educational supervisors carried out visits to schools each semester. Thus, I had to work to build good relationships with lecturers and reassure them that I wasn't there to undermine them. What really helped me to address this matter was that while

collecting data I did not make any comments, suggestions, or comparison while observing or interviewing them, and this helped participants feel more comfortable.

During the data collection stage I was also concerned that I might not get answers to my research questions. However, this concern disappeared when I started the data analysis process. In this stage, I realised the importance of choosing and designing of the research instruments and having a good understanding of practical research skills. The supervisors' advice as well as the pilot study helped me in this stage. For instance, the open observations allowed me to be reflective and responsive. The pilot study helped me refine and improve the study instruments; it showed me what I am good at; and what I could work to improve. For example, when I listened to the recording of the piloted interviews, I discovered that I spoke more than the interviewees, sharing my feelings and thoughts. Thus, in the actual interviews I only asked questions and listened and kept my thoughts to the analysis and interpretation phases.

Metacognition, which was absent from my educational background, has changed me as a researcher and educator, allowed me to look at my a priori assumptions, and make choices as to what to retain, what to rethink, and thus how to research and teach. In sum, it changed my thinking. As a result, I recognised how metacognition would contribute to the development of students' lifelong learning skills, and became more appreciative about metacognition. Moreover, carrying out this research has been an opportunity to question my own teaching practices, reflect on them and critique them with respect to the development of students' metacognitive skills.

Over the course of my Ph.D. I recognised that being a doctoral student is not just about obtaining the degree. Indeed, with endless support from my supervisors, training sessions, and learning resources and facilities offered by the University of Exeter, this journey has also developed my experience as a researcher, I have gained personal and practical skills, professional experience, experience as an independent learner, self-learning, receptivity and co-working with supervisors, and construction of knowledge through discussion. Moreover, while my Ph.D. research journey has come to an end, my research journey

pertaining to metacognition has just started. I must acknowledge that while there was a sense of concern and difficulties along the way, there was always abundant gladness and passion at each phase in this journey, as I realise how my research skills and my understanding are built. I enjoyed this journey, putting things in practice, fully engaging in the research process, and finding meaning in so many parts of the experience.

3.3 Research Design

3.3.1 Research Methodology: Case Study

Case study is defined by Robson (2011) and Yin (2003) as an empirical type of research that uses multiple resources of evidence and focuses on the investigation of a contemporary phenomenon in its real situation, especially when there is no clear line of demarcation between the phenomenon and the context. Yin (2003) further adds that, in case study, the researcher has no or little control on the phenomenon under investigation. A more comprehensive definition of case study is provided by Creswell et al. (2007), stating that:

> … a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time through detailed, in-depth data collection involving multiple sources of information (e.g., observation, interviews, audiovisual material, and documents and reports), and reports a case description and case-based themes (Creswell et al., 2007, p. 245).

In summary, scholars such as Creswell et al. (2007), Merriam (2009), Robson (2011), Thomas (2011), and Yin (2003), agree on the following characteristics of the case study methodology:

- It is a research strategy rather than a research method.
- It addresses a contemporary phenomenon.
- It conducts an investigation in a real context.
- It utilises multiple resources to gather data.
- It gives the researcher no or little control over the phenomenon under study.

The characteristics of case study presented above constituted the rationale behind the choice of case study for the purpose of this research, to explore the

presence and promotion of metacognitive skills in lecturers' teaching practices. In practical terms, case study, with its ability to address "why" and "how" research questions (Rownalds, 2005; Yin, 2003), proved very suitable to the research questions.

Case study design was also chosen due to its power of allowing researchers to obtain in-depth understanding of the phenomena under investigation (Andrade, 2009; Creswell et al., 2007; Merriam, 2009; Miles & Huberman, 1994; Rowlands, 2005; Siggelkow, 2007; Yin, 2003).

Moreover, the fact that a case study methodology can contribute to the development of professional practice (Baxter & Jack, 2008; Johansson, 2003; Merriam, 2009; Zucker, 2009) has added an advantage for this study. Simsons (2009) states that case studies seek to "generate knowledge and/or inform policy development, professional practice and civil or community action" (p. 11).

Despite all its unique research-related features, case study is not free from criticism. The first challenge directed at case study is related to the small number of investigated research subjects (Kohn, 1997). However, smaller sample sizes are more useful for investigating a topic in depth (Creswell et al., 2007; Myers, 2000).

Case study samples sizes have been criticized for being non-representative (Andrade, 2009; Kohn 1997). However, cases can be chosen for their particular value to researchers whose primary interest is deep understanding of the phenomenon under investigation (Kuzel, 1999; Patton, 1990; Shakir, 2002).

Further critique of the case study methodology involves the issues of data validity and generalisability (Merriam, 2009). In this study, the issue of credibility (validity) was addressed by utilising multiple data sources (Patton, 1990; Yin, 2003). As for limited transferability (generalisability) in case studies, this inquiry does not intend nor seek to achieve transferability. The primary purpose of the present study, as highlighted above, was to obtain an in-depth understanding regarding the issue under study in its real context. Therefore, the significance of the results lay in providing the community in question with valuable knowledge and insights (Myers, 2000).

In line with the conventions of interpretive research, the present study was designed to produce "thick description" and "nuanced understanding" of specific practices situated in a particular social environment, with emphasis given to capturing the details in the context over relating the findings to other contexts (Gibson & Brown, 2009, p. 57). 'Thick description' refers to rich information with details and explanations, in order to gain a deeper understanding. 'Nuanced understanding' fits with the interpretive nature of this study, as it allows the researcher to understand the phenomena from the perspective of the study's participants as well as my own.

Case studies are divided into three types: descriptive, exploratory and explanatory (Yin, 2003). I found that exploratory case study, with its focus on investigating a phenomenon of interest that has not been subject to preliminary research (Streb, 2010), best served the nature of this study. This is because there was an apparent lack of knowledge about the presence and promotion of metacognitive skills in the lecturers' teaching practices in the specific context of this study. The case was the undergraduate students and the lecturers in a COE at a university in the eastern region of KSA. This case was chosen because of ease of access to the participants, being a staff member in the same college (Cohen, Manion, & Morrison, 2000; Miles & Huberman, 1994), and because of the college's vision, furthering the efficiency of the college's educators. Equipping the educators with better knowledge of metacognition and metacognitive skills constitute an essential step towards that aim. The following sections present the sampling technique and the procedures of selecting the primary data sources; lecturers and undergraduate students.

3.3.2 Sampling Technique

Oppong (2013) defines sampling as the task of picking study participants dependent on whether they can give answers pertinent to the subject of the study. In research aimed at gathering qualitative data, there are three sampling options: a theoretical sample, a convenience sample, and a purposeful sample (Marshall, 1996; Oppong, 2013). The decision about sampling must be made in a way that enables the researcher to meet the specific needs of their research study (Robson, 2011). Researchers need to consider the most productive

sample in light of the research questions (Marchall, 1996; Patton, 1990). Onwuegbuzi and Leech (2007) assert that if the goal is to obtain insight into a particular phenomenon, event, or set of individuals, as is the case with the majority of interpretive research, then the researcher has to purposefully select the sample so that it enables them to better understand the phenomenon in question.

It is important to note that the selection of one sampling strategy does not exclude the other strategies. Rather, it is possible to combine (Patton, 1990). Considering the primary purpose of this investigation and the criteria which guided the choice of lecturer participants, which will be discussed in section 3.3.3.1 the stratified purposeful sampling technique was adopted. The aim of a stratified purposeful sample is to identify major variations and show characteristics of particular subgroups for comparison, rather than identify a common core (Patton, 1990). Stratified purposeful sampling therefore suited my study.

Regarding the sample size of the case study, Marshall (1996) believes that in research where qualitative data is required, it is advisable for the sample to be small. He further claims that the larger the size of the sample is, the less chance there is to gain an in-depth understanding of the phenomenon under investigation. Meanwhile, Flick (1998) cited in Onwuegbuzi and Leech (2007) outlines that too small a sample is not advisable as achieving data saturation through it may be hard. Similarly, Oppong (2013) argues that the fewer participants, the less reliable the research as the limited scope of the answers could bias the results. Whereas, a more numerous sample results in a breadth of responses, giving a more accurate picture of the topic of the research (Curtis, Gesler, Smith, & Washburn, 2000).

Thus, to decide on the sample size, the researcher should consider whether a smaller or larger number would generate the desirable outcomes (Baker & Edwards, 2012).

In the current study, I considered twelve lecturers and twelve undergraduate students an adequate sample to ensure enough data from which to develop a rich description of the phenomenon under study (Morse & Field, 1995).

3.3.3 The Study Participants

Due to religious and cultural considerations, only female departments were involved because in KSA, mixing of genders is not allowed (Allamnakhrah, 2013). The participants were selected from three departments: Kindergarten, Special Education, and Art Education. These departments are the main departments in the COE, the context of this study.

3.3.3.1 Lecturers

An important principle regarding sample selection is its capability to find rich data (Curtis et al., 2000). How much data participants can potentially contribute to the understanding of the phenomenon of interest is always crucial to the decision to include them in the present study (Merriam, 2009). I believe that, in this study, lecturers will be a rich source of information due to their close association with the educational process and its various dimensions, including students, curriculum, and pedagogies (Allamnakhrah, 2013). They were selected based on the following criteria:

- Teaching function; only lecturers involved in the teaching of courses at the time were involved;
- Lecturer's nationality (Saudi and non-Saudi).

The first criterion was essential because the study was conducted to explore the presence and promotion of metacognitive skills in lecturers' teaching practices. It also aimed at gathering various perspectives about metacognition, its application, potential factors that may limit the application and promotion of it, and how it could be encouraged in the context of HE in KSA. Therefore, it was important to choose lecturers who were practicing teaching inside the classrooms, rather than lecturers who had moved from teaching to assume some administrative responsibilities (Almubirik, 2007).

The teaching staff in the COE were from different nationalities (Saudi and non-Saudi). Thus, this diversity was likely to reflect whether culture and background had a remarkable impact on lecturers' understanding, implementation, and

promotion of metacognition, in general, and metacognitive skills, in particular. In this regard, Egege and Kutieleh (2004) state, "there is some evidence that cultural differences in approaches to educational learning do exist" (p. 76). This criterion may also serve as an illuminative comparison between the use of metacognition in Saudi Arabia and in other countries. The participants were from four different nationalities; six Egyptians, four Saudis, one Tunisian, and one Sudanese. The lecturer participants held different academic degrees and had different levels of teaching experience. Table 3.2 (below) shows demographic information of lecturer participants.

Table 3.2 Demographic Information of Lecturer Participants

Participant	Nationality	Teaching Experience	Qualification	Subject taught	Area of Specialty
Noria	Egyptian	22 years	Ph.D.	Kindergarten	Mental Health, Psychological Guidance, and Counseling.
Omaima	Egyptian	15 years	Ph.D.	Kindergarten	Child Psychology
Shadia	Egyptian	18 years	Ph.D.	Kindergarten	Kindergarten Philosophy Education: Language skills
Anisa	Egyptian	28 years	Ph.D.	Kindergarten	Kindergartens: kindergarten curricula.
Nawal	Saudi	3 years	Bachelor	Special Education	Special Education
Afaf	Sudanese	17 years	Ph.D.	Special Education	Special Education: Mental Disability
Nihad	Saudi	10 years	Master	Special Education	Special Education: Mental Disability
Manar	Saudi	9 years	Master	Special Education	Special Education: Mental Disability
Amorah	Egyptian	15 years	Ph.D.	Art Education	Fine Arts: Interior Architecture
Amina	Tunisian	10 years	Ph.D.	Art Education	Science and Art Technology Theories of Art
Nadia	Saudi	Year and a half	Master	Art Education	Art Education: design
Dalal	Egyptian	20 years	Ph.D.	Art Education	Practical Arts, Department of Ceramics

3.3.3.2 Undergraduate Students

Twelve students, four from each department in the COE, participated. The involvement of students greatly enriched my understanding of the phenomenon in question (Soden & Maclellan, 2005). Moreover, involving students, when researching lecturers' practices, can help guard against bias in research (Robson, 2011). Selecting the appropriate students to participate was a challenging task, however, because the focus of the study was the lecturers' teaching practices. Morse and Field (1995) provide an answer to such a research dilemma, claiming, there are some cases where the investigator cannot decide which participants would be adequate. The investigator might be using volunteers in which potential participants are encouraged to contact the investigator.

I asked each lecturer participant to nominate a student to participate in the study. Five lecturers appointed a student and provided me with the student's name and contact number. This approach of letting the lecturers nominate the students has several advantages. According to Ab Kadir (2009) cited in Allamnakhrah (2013), this method could provide lecturers with trust and a sense of inclusion, rather than exclusion and intrusion. The remaining lecturers preferred to introduce me to the students at the start of the first classroom observation and ask the students to contact me if they desired to participate. As a result of this, I obtained an additional thirteen student volunteers to add to the five nominated by lecturers. Seven of these additional volunteers were used in the main study, three students in the second pilot study, and three I had to disregard as their availability did not match the other students for interviews. Thus the total sample size was twelve. Table 3.3 (below) shows demographic information of student participants.

Table 3.3 Demographic Information of Student Participants

Student participant	Major	Level	Year
Hanadi	Kindergarten	Sixth	Third
Nermin	Kindergarten	Sixth	Third
Ebtisam	Kindergarten	Fourth	Third
Nesreen	Kindergarten	Fourth	Second
Kausar	Special Education	Sixth	Third
Rawan	Special Education	Fourth	Second
Nihal	Special Education	Fourth	Second
Nashwa	Special Education	Fourth	Second
Kholod	Art Education	Sixth	Third
Shatha	Art Education	Fifth	Third
Abrar	Art Education	Fourth	Second
Majd	Art Education	Fourth	Second

3.3.4 Methods of Data Collection

According to Carmichael (2006), when tertiary educators are the context of a study, utilisation of qualitative methods will lead to the generation of information that is more practical, detailed and thorough. In sum, the qualitative methods were relevant for this research because qualitative data are the core of interpretive studies, and talking to the study participants and observing them in their social world are the techniques in which the majority of the information, which form the research interpretation, are gathered (Radnor, 2001).

Bearing in mind the lack of knowledge about the application and promotion of metacognitive skills in higher education in KSA, qualitative methods were deemed to be the most appropriate to meet the study objectives of exploring perceptions. This is so because, via qualitative methods, any phenomenon with little already known about it can be better understood (Strauss & Corbin, 1998, cited in Allamnakhrah, 2013). Accordingly, this study made use of multi qualitative methods: observation, semi-structured interviews, and group interviews. Each method has its own advantages and limitations that are discussed in detail next.

3.3.4.1 Observation

Observation is considered one of the primary methods to collect qualitative data (Merriam, 2009). According to Gibson and Brown (2009), observation can be used for several reasons, but it is usually conducted to obtain an understanding of what people do and why. It further enables researchers to attain their goals without directly asking people about their views, feelings, or attitudes (Robson, 1993). Moreover, it allows for a holistic interpretation and understanding of the phenomenon being investigated, when combined with interviewing (Merriam, 2009).

In this study, the decision to conduct classroom observation was determined by several factors. Firstly, the use of observation is in line with the case study design (Merriam, 2009), and the data generated thereby offers direct insight of the phenomenon under study (Merriam, 2009). Secondly, it serves the research focus that revolves around teaching practices, as practice is best explored and understood via watching and observation.

There are many different forms of observation. Observation is divided into two types; according to the range of structure: Structured observations refer to the process by which the traits or acts being observed are determined before the start of observations, so that the observations have a focus (Gibson & Brown, 2009). Unstructured observations, on the other hand, refer to less rigid observations where points of interest occur naturally (Gibson & Brown, 2009). My first intention was to carry out a structured observation. Hence, I designed an observation schedule (see Appendix, B) that was developed based on schedules used in other works of research: Schraw (1998), Schraw and Dennison (1994), Selamat and Sidhu (2011), Tanner (2012), Vermunt (1996), and Vermunt and Verloop (1999). The schedule contains twenty items that pay attention to specific aspects of metacognitive skills; planning (eight items), monitoring (six items), and evaluating (six items).

However, piloting the observation schedule resulted in my decision to abandon it for two main reasons. First, it was very difficult to capture the required information with all its necessary details. Second, the formal observation

97

schedule, normally used to help researchers focus on specific actions of interest, did not account for all the classroom events to the extent that sticking to the schedule would have meant the exclusion of many significant incidents to the research (Radnor, 2001). Therefore, an unstructured observation technique was applied instead.

In KSA, audio or video recorders cannot be placed in classrooms due to cultural and religious reasons (see chapter Six). Therefore, for the classroom observations, I tried to take advantage of the guidance of scholars such as Merriam (2009) and Patton (1990). Merriam (2009) states that to form the database for analysis, observation recordings must be as detailed as possible. However, Patton (1990) argues, as it is not possible to capture everything, it is therefore necessary to decide which activities and participants to observe. Thus, I tried to capture as much as I could of the details of the different classroom events, with a special focus on words, actions, behaviours and activities that can lead to understanding the presence and promotion of metacognitive skills in the lecturers' teaching practices.

The field notes also included general information such as the lecturer name, the date and time, the location, the number of students attending the lecture, and the topic of the lecture (see Appendix, C). Documenting all these pieces of general information was done to help make the analysis of the observation data easier later on (Merriam, 2009).

Furthermore, the field notes included direct quotations of what was said in class, the observer's comments, and some relevant descriptions whenever and wherever they were deemed potentially significant. This meant that the field notes aided in the collection of pertinent data, and later facilitated its analysis.

Lecturer participants were observed twice in their classrooms. However, three of them were observed more than twice based on their invitation to do so. The first observation was carried out before conducting any interviews. Following this procedure offered more understanding of and insights into the lecturers' characters and teaching practices that informed the way the interviews were conducted. Carrying out an observation before an interview helped in identifying areas where I could probe, or ask for more clarification or elaboration (Merriam, 2009).

The observations were not without their own difficulties, however. Some of these difficulties related to the duration of observation, the content of the lessons taught, and the teaching approaches. In some practical sessions, I had to move around in the classroom because the lecturer was moving around and giving instructions to students individually. The observation lengths varied; some lectures lasted for one hour, others two hours, while some practical sessions lasted for three to four hours. I observed the entire lecture time because I was not sure at what point important things might appear (Merriam 2009).

A second round of observations was conducted after I had interviewed the lecturers. Directly after each observation, I went back to my observation notes and read them again in order to add relevant comments and further explanations about the notes while I could still remember the details after the class finished. It is very important that not much time should pass before the field notes are revised because the longer it takes the researcher to do so, the less likely it is that the observer would be able to remember and record any relevant data (Bogdan & Biklen, 2007, cited in Merriam, 2009). I worked with a minimal gap between observation and recording in all cases. Tables 3.4, 3.5, and 3.6 summarise the classroom observations.

Table 3.4 Classroom Observation: Kindergarten

Lecturer	Observation No	Module	Subject Title	Units Certified
Kindergarten Department				
Omaima	1	Learning Difficulties	Modern strategies for diagnosing and measuring learning difficulties – measurement tools and assessment of learning difficulties	2
Omaima	2	Learning Difficulties	Development difficulties	2
Omaima	3	Children's Literature	Presentations and evaluation session	2
Noria	1	Environmental Education	A Kindergarten teacher – Managing activities in the classroom	2
Noria	2	Environmental Education	The Approach for Conducting Projects: Trips.	2
Shadia	1	Preparing Kindergarten Teachers	The kindergarten teacher and organisation of the kindergarten environment	2
Shadia	2	Preparing Kindergarten Teachers	The kindergarten teacher's skills of applying activities to achieve cognitive goals.	2
Anisa	1	Developing Mathematical, Environmental and Scientific Concepts	Classification and Developing Logical Thinking	3
Anisa	2	Developing Mathematical, Environmental and Scientific Concepts	Concept's Development. How a child forms a concept.	2

Table 3.5 Classroom Observation: Special Education

Special Education Department				
Lecturer	**Observation No**	**Module**	**Subject Title**	**Units Certified**
Nawal	1	Designing Programs for Children with Mental Special Needs	Designing Curricula for the Hearing Impaired and the Role of Educational Programs	3
Nawal	2	Designing Programs for Children with Mental Special Needs	Designing Curricula for and rehabilitating the Hearing Impaired	3
Afaf	1	Speech	Types of Speech Disorders	2
Afaf	2	Speech	Causes of Speech Disorders	2
Manar	1	Communication Skills for People with Special Needs	Speech Disorders (receptive language disorders): substitution, deletion, forwarding, distorted articulation and addition.	3
Manar	2	Psychological Health for People with Special Needs	Levels of psychological health and their effect on one's psychological wellbeing and adaptation (the conscious, advantages of the conscious, components of the conscious in psychological health, disorders that may afflict the conscious, the unconscious, the importance of the unconscious).	2
Nihad	1	An Introduction to Mental Impairment	Early Intervention	2
Nihad	2	An Introduction to Mental Impairment	Prevention of Mental Impairment and General Trends	2

Table 3.6 Classroom Observation: Art Education

Art Education Department				
Lecturer	**Observation No**	**Module**	**Subject Title**	**Units Certified**
Amorah	1	Internal Design	The internal design of a villa (consisting of the ground floor and the first floor)	4
Amorah	2	Internal Design	The internal design of a villa (consisting of the ground floor and the first floor)	4
Amina	1	Art Education Terms	Art education terms	1
Amina	2	Art Education Terms	Specialism-related software tools and interfaces in Arabic and English	1
Nadia	1	Children's Drawings and Stages of Their Developments	Styles in Children's Artistic Expression	2
Nadia	2	Children's Drawings and Stages of Their Developments	Children's art and its significance - children's drawings	2
Nadia	3	Arabic Calligraphy	Implementing Arabic calligraphy in plastic art	4
Nadia	4	Arabic Calligraphy	Collective evaluation (each class evaluates that mid-term exam of another class)	4
Dalal	1	Porcelain Works	Creating a shape using porcelain with different effects	4
Dalal	2	Primitive Arts	The cultures and arts of the Mesopotamia	1
Dalal	3	Porcelain Works	Moulding a porcelain shape with different effects	4

An example of classroom observation is illustrated in Appendix (D). As two rounds of observations cannot provide a sufficient understanding of a phenomenon, however, there was a need for additional qualitative methods (interviews, and group interviews) to investigate the matter further.

3.3.4.2 Individual Interviews

Interviews are the most common and accepted method for qualitative data collection (DiCicco-Bloom & Crabtree, 2006; Merriam, 2009; Robson, 2011; Watts & Ebbutt, 1987). They might be used as a primary method for data collection or in combination with observation, document analysis, or other data collection strategies (Bogdan & Biklen, 1982, cited in Hoepfl, 1997). Interviewing is defined by Kvale (1996) as "a construction site of knowledge … an interchange of views between two persons conversing about a theme of mutual interest" (p. 1). Kvale (1996) further adds that an interview "attempts to understand the world from the subject's point of view, to unfold the meaning of people's experience and to uncover their lived world" (p, 2). Interviews, as described by DeMarrais (2004), may be considered tools by which a dialogue is created between subject and researcher, pertaining to the topic of the research.

It is always advisable to use the interview method in intensive case studies focusing on a few selected individuals (Merriam, 2009). Therefore, interviews were utilised in this inquiry for their compatibility with the interpretive approach and the case study design that guides this inquiry. When it comes to the interview structure, interviews are categorised into three types: structured, semi-structured, and unstructured (DiCicco-Bloom & Crabtree, 2006; Merriam, 2009; Robson; 2011). From these three types, semi-structured interviews were found to be the most suitable to employ to elicit the lecturer participants' perceptions of the presence and promotion of metacognitive skills in theirs' teaching practices.

Semi-structured interviewing is a strategy that is used very widely in educational research (Merriam, 2009). The reason that makes it very popular in educational research is that, although it follows clear guidelines, a semi-structured interview

still allows the researcher to adapt questions as the interview develops (Merriam, 2009). The researcher can clarify, re-order or re-word the questions according to the flow of information to further investigate issues introduced by the interviewees (Gibson & Brown, 2009; Tong, Sainsbury, & Craig, 2007).

These functional features of semi-structured interviews proved very useful for the purpose of the present study. For instance, I had a preconceived understanding that all lecturers in the COE had a qualification in education. However, through conducting the interviews, I found out that three of the lecturers from the Art Education department did not have educational qualifications. Thus, when I had the interviews with them, I needed to reformulate some questions related to certain specialised educational aspects. For example, one of the questions that I needed to change during the interview was: "From your perspective what teaching strategies are best to enhance students' metacognitive skills?" I reformulated the same question to: "How would you encourage/facilitate your students' learning and thinking about thinking or metacognition?" By doing so, I managed to ask the same question without the use of a specialised term that these lecturers were perhaps unfamiliar with, i.e. teaching strategies. Moreover, using semi-structured interviews allowed me to probe further into interesting aspects that appeared unexpectedly during the interviews (Hoepfl, 1997).

A semi-structured interview guide was prepared to make sure that consistent categories of data were obtained from all participants (Hoepfl, 1997). It consisted of a list of pre-thought, open-ended questions that allowed space for follow-up clarification and elaboration questions (DiCicco-Bloom & Crabtree, 2006; Hoepfl, 1997; Merriam, 2009). Questions and inquiries yielding yes/no answers were avoided as I wanted to explore the participant's personal views in depth. To design the semi-structured interview guide, there was a need to think carefully about the questions that should be asked and the type of data these questions would likely generate (Gibson & Brown, 2009). Thus, the interview questions were all designed in light of the primary purpose of this inquiry highlighted in the research questions.

The interview guide was mostly developed from the literature investigating lecturers' teaching practices regarding thinking skills in the context of HE. One

of these studies was Wen's (2012); this study looked, from the perspective of university teachers, at how metacognitive skills were taught to students and pre-service teachers (2012). Another study was Allamnakhrah's (2013) which investigated the teaching of critical thinking in HE in KSA from the perspectives of lecturers and undergraduate students. This literature thus assisted me in developing my interview guide.

Some pertinent factors were considered in the design of the questions. For example, before conducting the interviews, I noticed that some lecturers sounded a little concerned about conducting the interview. I thought about what could be the reason behind that and how I could lay to rest these concerns. I developed three assumptions:

- The first assumption: Some lecturers may have been uncomfortable to be interviewed because they were not familiar with the concept 'metacognition'; they may not have heard of it or read about it before. Therefore, I avoided asking lecturers about metacognition directly. Rather, I ordered the interview questions following Patton's (2002) cited in Merriam (2009) suggestions; the introductory questions aimed at comforting the lecturers, reducing the level of concern they had, and leading them gently to the topic of inquiry; then I asked questions that investigated their knowledge, experience, action, and activities regarding the phenomenon under study; finally, I concluded with questions related to the participants' values and opinions regarding the interests of the study. Moreover, following the recommendations of Veenman, Van Hout-Wolters, and Afflerbach (2006), I avoided asking direct questions about metacognition that would most likely result in blanks, e.g. "How do you apply metacognition in your lessons?" Instead, I asked such questions as; would you please give me some examples of when you asked your students to plan their work? Do you encourage your students to check or monitor their performance/progress/understanding? Could you give me some examples of when you have asked your students to evaluate their work?
- The second assumption was developed based on the first pilot study; lecturers may not be familiar with my translation of the term 'metacognition' into Arabic. Regarding this matter, I went back to the

literature that addressed metacognition in Arabic and found three translations of the term:

- o *Ma Waraa Al-Maarifa* (ما وراء المعرفة); [metacognition] (Abu Bashir. 2012; Abu-latifah, 2015; Alahmmady, 2012; Al-Jarrah & Obeidat, 2011; Al-Khawaldeh, Al-Rbabaah, & Al-Saleem, 2012; Yacoub, 2016, Zoubi, 2008);

- o *Al-Baad Idrakiyah* (البعد إدراكية); [post perceptionism] (Abu Shmais, 2002);

- o *Fawq Al-Maarifah* (فوق المعرفة); [ultra-knowledge] (Youssef, 2009).

This study utilised the first Arabic term, "*Ma Waraa Al-Maarifa*", because it is the most commonly used in the Arabic literature. Thus, lecturers could find resources related to the topic if they were interested in reading about it before the interview.

- • The third assumption: Some lecturers may be anxious about being interviewed because, in Saudi Arabia, interviewing is not a very common practice. In this regard, Al-Beraidi (2010) cited in Allamnakhrah (2013) states, research in KSA is usually quantitative, based on surveys, and rarely involves interviews or observation. Therefore, I took extra care in explaining that the study was meant to be for informative, rather than judgmental, purposes. I also explained that no one, including the management, would have access to the data and that it would remain anonymous and confidential on a password-locked machine. More details about these and other ethical considerations will follow in section 3.9 later in this chapter.

The final version of the semi-structured interview questions consisted of four main parts. The first part asked lecturer participants to provide demographic information: name, nationality, major, and teaching experience. This type of information could be useful in the process of interpreting the findings. The second part consisted of three questions related to the lecturer's former experience as a student. The third part of the questions was comprised of seven questions that explored the lecturers' role and teaching practices inside the classroom. The fourth part consisted of seven questions that were used to identify lecturers' understanding of metacognition and how it could be incorporated in the context of HE in KSA, and what factors may limit the application or promotion of metacognition in this context. The interview

concluded by asking each lecturer for further comments regarding the phenomenon under investigation. Appendix (E) illustrates the list of questions that guided the semi-structured interviews. An example of a lecturer's interview is illustrated in Appendix (F).

The semi-structured interviews were conducted on a one-to-one basis; each interview lasted approximately fifty to sixty minutes. Eight of the interviews were audio recorded to ensure that everything said was preserved for analysis (Merriam, 2009). No doubt recording the interviews enabled me to capture the data more accurately than with handwritten notes (Hoepfl, 1997). However, four lecturers preferred not to be recorded; therefore, I had to write detailed notes while conducting the interviews with these four lecturers as that was the only strategy available to record the data. Replacing tape recording with detailed notes taken during the interview is an acceptable solution when tape recording is not an option (Merriam, 2009).

3.3.4.3 Group Interview

According to Lewis (1992), a group interview can be described, "as a group conversational encounter with a research purpose" (p. 414). Group interviews, if used alongside other qualitative data collection techniques, are capable of not only validating data from individual interviews and observation notes, but also benefiting from group dynamics to obtain responses that are greater in depth and breadth than the ones obtained through individual interviews (Frey & Fontana, 1991; Lewis, 1992).

Indeed, group interview as a technique of data collection is similar to an individual interview method. However, it allows the researcher to gather data from multiple participants at once (Kitzinger, 1994). In this technique, the researcher asks a question and each interviewee responds in turn (Kitzinger, 1994). In the group interviews technique, interaction between individual participants is not required.

Focus group interviews, however, engage participants in interaction amongst themselves. Focus group interviews are defined by Savin-Baden and Major (2013) as "a gathering of a limited number of individuals, who through

conversation with each other, provide information about a specific topic, issue or subject" (P. 374-375). Although, focus group interview method is a popularly used approach in qualitative research (Savin-Baden & Major, 2013), it was not chosen for my study as it was ill-suited for several reasons outlined by Savin-Badin and Major (2013). The authors argued that responses may be biased by the respondents who wish to fit in with the norm, rather than actually responding naturally. Further, it does not lend itself well to detailed responses. Focus groups tend to tell the researcher more about how the respondents wish to be considered than their genuine processes, which are more successfully explored using an interview technique (Savin-Badin & Major, 2013). Thus, I chose the group interviews technique to construct an adequate understanding of the phenomenon under study based on the participants' responses, as well as my interpretation.

In this study, an exploratory mode of group interviewing was chosen. The choice of this mode was made because it allowed me "greater flexibility in response patterns and probe tactics" (Frey & Fontana, 1991, p. 180). This type usually implements unstructured, open-ended questions (Frey & Fontana, 1991); however, to meet the study purpose and to avoid losing focus and wasting time, the technique of semi-structured interviewing was applied.

The interview guide consisted of a list of open-ended questions and was designed based on the models of Wen's (2012) and Allamnakhrah's (2013) studies. The guide comprised four main parts; the first part asked the students to provide demographic information: name, major, and level; the second part consisted of six questions related to assignments and the teaching process in the classroom; the third part was made of four questions investigating students' learning processes. Section four comprised of six questions discussing metacognition, metacognitive skills, factors that may have limited the promotion of metacognition and suggestions for better approaches to incorporate metacognition in HE in KSA. The interview was then, concluded by asking the students if they have any further comments regarding any of the points raised. Some of these questions have sub-questions. Appendix (G) shows the group interview questions.

Twelve undergraduate students were divided into three groups, and they were interviewed about their own perspectives on the presence and promotion of metacognitive skills in the lecturers' teaching practices. Regarding the group size, Cohen et al. (2000) and Lewis (1992) state that the group size can be a problematic issue; a small number can put pressure on individuals while a big number would lead to loss of focus. In group interviews, the group size should not exceed six or seven individuals; otherwise, the group is likely to fragment (Breakwell,1990, cited in Lewis,1992). Lewis (1992) adds that some researchers believe the groups should be even smaller than that. In the present study, my first intention was to divide the student participants into two groups, with six students in each group.

However, it was difficult to find a time that was suitable for all the students especially as they were from three different departments with different timetables. Therefore, the students were divided into three groups (four students per group); each group consisted of students from the same department. Bringing the students of the same department together did not only solve the timing issue, but also provided a more comfortable atmosphere for the students in each group as they were more likely to find something to share and provide sufficient and valuable information about (Allamnakhrah, 2013).

Each group interview was audio-recorded. Taking into consideration the fact that there are a variety of interviewees in group interviews, as opposed to one interviewee in individual interviews, resorting to audio-recording or verbatim transcription of the interview is a must (Lewis, 1992; Whatts & Ebbutt, 1987). For this study, it was not wise to ask the students to slow down so I could transcribe what they were saying verbatim; therefore, I preferred to audio-record the interviews and fully transcribe them later (Lewis, 1992).

With all its advantages listed above, there were some drawbacks to using the technique of group interview in this study (Whatts & Ebbutt, 1987). For instance, at some points, the group interview was dominated by an opinionated person who inhibited others in the group by interrupting their turns to answer. Another issue that appeared during the group interviews related to friendship matters; some students who volunteered to participate were friends. This appeared to lead, at times, to over consensuality amongst the group members (Lewis,

1992). Appendix (H) shows an example of data gathered from one student during group interview.

Data collected through classroom observations, individual interviews, and group interviews were combined to answer the research questions. Details of the data collection procedures are discussed in section 3.6 later in this chapter.

3.4 The Pilot Study

Before piloting the study, there was a need to translate the questions of the individual and group interviews as well as the observation schedule into Arabic. Testing the interview questions in pilot interviews is crucial for trying out the quality and flow of the questions (Merriam, 2009). This piloting process allowed me to judge which questions confused participants and needed rephrasing, which questions would not yield useful data, and to add questions which the participants generated that I had not initially thought to include (Merriam, 2009).

The questions of the semi-structured interviews were piloted twice. The first pilot study involved three Saudi PhD students (females) studying at the Graduate School of Education at Exeter University in the United Kingdom. The pilot interviews were conducted on a one-to-one basis. Each of those postgraduate students is a lecturer at a different university in KSA. The first was from the English Language Centre at King Abdul-Aziz University; the second was from Special Education at King Saud University; and the third was from Educational Technology at Imam Abdulrahman Bin Faisal University.

The interviews were audio-recorded, and then they were fully transcribed. The transcriptions were read very carefully to determine which questions needed to be modified, or even excluded. As a result of piloting the interviews, I found that some questions needed to be moved backward or forward in order to obtain better flow for the interview; for example, questions related to metacognition were moved to part four of the interview guide instead of part two. Moreover, some other questions appeared to be best answered using classroom observation data rather than data generated from the interviews (e.g., "Can you describe your teaching practices in your classes?" "You have finished your lesson; what happens next?").

Furthermore, the pilot study helped me to find areas where I could follow up (Merriam, 2009). In the second pilot study, I emailed the interview questions, the Arabic and English versions, to a lecturer at the University in KSA in which the study took place. She has a PhD degree and twenty years of teaching experience. She also has a sufficient level of English proficiency. She was asked to comment on the clarity of the translations of the questions, and she provided useful feedback in that regard. Her feedback led to the revision of some Arabic translations of the questions.

The questions of the group interviews were piloted twice. In the first pilot, the Arabic translations of the questions were sent to one of my colleagues at the University in KSA in which the study took place. I asked her to distribute it to a random sample of students and request them to comment on the clarity of the questions. Based on the students' feedback, some questions were reformulated, reordered or excluded; an example of a question that was excluded is "As a university student, what goals and skills do you expect to obtain?" This was excluded because all the student participants in the pilot study marked this question as 'unclear', which suggested to me that it would not render useful data in the study itself.

The second pilot study was conducted in Saudi Arabia with three students, one from each of the three departments mentioned above. The students were interviewed individually. This step helped me to examine the suitability and clarity of the interview questions. I planned to group them together to examine how long the group interview will take, but this proved difficult to do. The second pilot study was useful in that it showed that students studied metacognition in their Thinking Skills course (see Appendix, I). However, they also reported that they forgot all about it. Based on this pilot study, further modifications to the questions were made. For example, the question, "What roles can your lecturers play to help you to be able to plan your learning/thinking" was sometimes modified to ask the students to imagine, "As a university lecturer, how would you promote the students' planning skill as a metacognitive skill?" I also added the question: "What do you know about metacognition?" These changes were made because some students were unable to understand the question and thus unable to provide useful data unless I amended it.

Regarding the pilot study of the structured observation schedule, one of my colleagues agreed to let me observe her classroom. I observed her with another staff member who had the same observation schedule with her. Then, after the lecture, I had a discussion with my colleague who used the same observation schedule, and we together reached the conclusion that following the schedule was very difficult and impractical to the purpose of the study. Thus, an open observation was deemed more functionally appropriate.

3.5 Data Credibility and Dependability

Jensen (2008) defines credibility as "the methodological procedures and sources used to establish a high level of harmony between the participants' expressions and the researchers' interpretations of them" (p.138). The primary purpose of this inquiry was to investigate the understanding of metacognition and the application of metacognitive skills at a COE in KSA. Considering that the study was following the interpretive research approach, "the criteria for trusting the study are going to be different than if the discovery of a law or testing a hypothesis is the study's objective" (Merriam, 2009, p. 210). It would be completely inappropriate, for the purpose of this study, to apply statistical measures of reliability and validity; indeed, using statistical measures would cause considerable confusion if applied (Ritchie, Lewis, Nicholls, & Ormston, 2013). Creswell (2014) suggests that a researcher could determine the credibility or accuracy of findings through utilising some strategies such as triangulation or member checking. Thus, in this study, ensuring credibility (validity) followed the following procedures:

3.5.1 Triangulation

Triangulation refers to the manipulation of multiple methods, including interviews, observation data and group interview, in the process of data collection and analysis (Kohn, 1997). Merriam (2009) views the triangulation technique as the best-known strategy to ensure internal validity in a study. Triangulation becomes even more worthwhile in studies tackling complex topics like teachers' practices (Meijer, Verloop, & Beijaard, 2002). This credibility-

enhancing strategy makes use of varied ways to look at the same phenomenon, resulting in further credibility and stronger confidence in conclusions drawn (Patton, 2002, cited in Ritchie et al., 2013).

The application of the triangulation strategy assisted me in cross-checking and comparing different forms of data collected through observation, individual interviews, and group interviews (Gibson & Brown, 2009; Merriam, 2009). Applying the triangulation technique enabled me to examine each information source against the others, which meant emerging themes and findings were usually corroborated by the more than one source of evidence (Creswell, 2014; Merriam, 2009), awarding the findings greater credibility (Shenton, 2004).

There is no doubt that using different methods in tandem deploys their benefits and compensates for their individual limitations (Shenton, 2004). The other form of triangulation that was utilised for the purpose of this study was the incorporation of wide range of informants (Shenton, 2004). This type of triangulation has its advantages as each participant's experiences and points of views can be verified against the experiences and points of views of the other participants. This cross-checking and cross-relating of data can ultimately result in constructing a rich picture and more informed analysis based on the contributions of a range of participants (Shenton, 2004).

3.5.2 Member Check

The second strategy applied to ensure the credibility of the study was member check. Member check or respondent validation is defined as "taking research evidence back to research participants" (Ritchie et al, 2013, p. 358). I transcribed the individual interviews and the group interviews in full. Then, each lecturer and student participant was provided with a copy of the interview transcription to check, comment on, confirm or even remove any part of it. Asking informants to read the transcripts of dialogues they have participated in is a highly-recommended practice in qualitative research (Shenton, 2004). The thinking behind this practice is to let the informants decide whether they consider that "their words match what they actually intended" (Shenton, 2004, p. 68).

Similarly, Ritchie et al., (2013) maintain that the researcher must discern whether the responses given, with regard to one's own perception, is the actual experience of the respondent; it must be determined whether the results are representative. When used in a study, member check strategy can prove very useful as it encourages participants to provide additional information that is likely to assist the interpretation of the findings (Ritchie et al., 2013). For example, one lecturer added some explanation to her response and suggested reordering parts of her answers. Another lecturer asked to remove some examples she provided because she did not want them to be used in the study. Member checking was utilised another time in the data translation process which is explained in the 'data translations' section, later in this chapter (see section 3.7.2).

3.5.3 Dependability (Reliability)

Dependability is defined as the inquirer's responsibility to ensure that the process of the inquiry is traceable, logical and documented (Schwandt, 2001). Within the interpretive framework, fulfilling the criterion of dependability is difficult. However, researchers need to show how they strive to enable repetition of the study in the future (Shenton, 2004). This can be achieved through detailed explication of the procedures followed to arrive at a particular set of conclusions (Seale, 1999, cited in Ritchie et al., 2013). This is in line with Shenton's (2004) argument that to address the issue of dependability effectively:

> … the processes within the study should be reported in detail, thereby enabling a future researcher to repeat the work, if not necessarily to gain the same result … Such in-depth coverage also allows the reader to assess the extent to which proper research practices have been followed, so as to enable readers of the research report to develop a thorough understanding of the methods and their effectiveness (Shenton, 2004, p.71).

Following Shenton (2004), I have attempted to increase the dependability of the research by discussing in detail the following: the methodology and the details of its use, and the practical steps taken to gather information first-hand.

3.6 Data Collection Procedures

The data collection process took place in KSA in the second semester of the academic year 2014/2015; it lasted fourteen weeks from the 8th of February to the 21th of May 2015. Firstly, to be able to start the data collection, I visited the dean of the COE. She provided me with the name and contact details of the head of each department within the college: Kindergarten, Art Education, and Special Education. I first visited the head of the Kindergarten department and I explained to her the nature of the study and the type of participation required. I also provided her with copies of the information sheets designed for the head of the department, the lecturers and the students (see Appendix, J). Regarding the heads of the other two departments, as they were males, cultural considerations required that I send a formal letter to each one of them explaining to them the same as that which I explained to the head of the Kindergarten department in person, and I provided them with copies of the information sheets of the study. Each one of the heads of department nominated four lecturers and provided me with their names, contact details, teaching schedule and office hours. I sought the permission of the heads of the departments first because I knew I needed permission from those in authority (Merriam, 2009).

After that, I visited each lecturer in her office and had a short talk with her. The purpose of this visit was to answer any questions that they had and to ensure they knew that there was no pressure on them to participate. I also explained to them that they had the right to withdraw from the study at any time with no consequences on them (see Ethical consdrations, section 3.9). Further, I asked each lecturer to choose the module that she preferred me to attend and observe. I followed that by asking each lecturer to nominate a student to participate in the study. These visits resulted in the agreement of each nominated lecturer, with the exception of two, to let me carry out two observations and an interview. As two of the contacted lecturers preferred not to participate, I needed to request from the heads of the departments to nominate two other lecturers. I then obtained a written informed consent from each lecturer who agreed to participate, expected one who preferred to sign the informed consent after reading the original notes of her classroom observations and interview (see Chapter Six). Appendix (K) shows the Arabic and English

versions of informed consent, with note that the Arabic version included an item about recording.

As for the observations, as mentioned above, each lecturer chose the module and the time of preference to be observed. While conducting the classroom observations, I joined the lectures as a regular student. I sat in the middle of the last row of the lecture rooms. This location allowed me to observe the whole classroom. It further allowed me to cause minimal disturbance to the lecture. I always arrived a good time before lectures started to avoid interrupting the teaching. The case was very different with the practical sessions of the Art Education major. I had to move around to observe the lecturers' teaching practices as they usually explained things to each students individually. There was also a module in which the students and the teachers worked on computers arranged around a room which blocked line of sight and necessitated me moving about in order to fully observe.

As for the lecturers' interviews, each lecturer chose a convenient time for her. They were made aware that the interview might last for about sixty minutes. Although more than thirty minutes is not advisable (Robson, 1993), the exploratory nature of the study necessitated more interviewing time. Each interview was conducted in the lecturer's office. Most of the interviews lasted for fifty minutes; however, in some cases, because of student or staff interruptions, the interviews lasted for sixty minutes.

Prior to the day of the interview, I contacted the lecturers asking them if they preferred to read the questions beforehand, but none of them preferred to do so. While conducting the interviews, I was aware of the need to explain what was meant by 'metacognition' and 'metacognitive skills' to the lecturers before asking them any question about factors limiting the presence or promotion of metacognition in the specific context, or asking them to provide suggestions to incorporate metacognition in HE. Hence, following Wen's (2012) procedures in his study, each lecturer was provided with the adopted definition of metacognition and metacognitive skills on A4 paper (see Appendix, L). Time was given to the lecturers to read the paper and raise any question they had about it before continuing the interview. The interviews were audio-recoded

using two devices; this was done to avoid missing any information that might occur as a result of a technical malfunction in one of the recording devices.

With regard to the group interviews, they were conducted at the end of the semester as, during the semester, students were too busy with their assignments and mid-term exams. In retrospect, this timing allowed me to acquire more knowledge about the teaching practices followed in the lecture rooms. Thus, I could ask more context-specific questions.

When it came to the actual conduction of the interviews, I requested from the administration in the COE to allocate me a room equipped with a desk, chairs, and a computer. At the time of the group interview, I gave the students a copy of the information sheet, and explained what was in it to them. Then I provided each student with a copy of the questions and allowed them five minutes to read them and highlight any unclear questions. This was followed by clarification of any unclear points in the questions. Next I explained to the students how the interview would be carried out. I explained that each question would be asked once, and that each student needed to answer each question individually. However, they were informed that they could ask for repetition or add further comments. Following this procedure allowed me to manage the interview time effectively.

I also explained to the students that there were no right or wrong answers, and that their responses would constitute a valuable contribution to the study. Then I requested them to sign the informed consent if they were willing to participate. They were also told that the interview might last for about ninety minutes or more; the actual interviewing time was about ninety minutes. This length of time was not ideal, but necessary as the option of holding a follow-up interview was almost impossible with the summer holiday drawing very near making it very difficult to bring the students together again. At one point of the interview, there was a need to remind the students of the meaning of metacognition and metacognitive skills, which they had covered in their academic studies before. All of the above was done with the assistance of PowerPoint slides (see Appendix, M). Two audio-recorders were used for the purpose of recording the interviews and managing the risk of technical failure.

Finally, at the end of each interview, I thanked each lecturer and student participant, and I asked for her permission to contact her if need be, and they all kindly agreed.

3.7 Data Management

As the data collection stage was over, there was a necessity to manage and organise the data to prepare them for coding, analysis and interpretation. This step included data transcription and translation, which I detail as follows:

3.7.1 Data Transcription

The interviews were transcribed word-for-word. Merriam (2009) points out that "verbatim transcription of recorded interviews provides the best database for analysis" (p. 110). The transcription process could be seen as very demanding and time-consuming. However, it saves the researcher substantial time at the early stages of analysis because s/he will reach a far more thorough understanding having transcribed the data themselves (Braun & Clarke, 2006).

I always made sure to finish the transcription of the interviews as soon as possible. I decided to transcribe all the interviews myself for four main reasons; first, to become more familiar with the data; second, to protect confidentially and anonymity; third, to achieve better transcription quality utilising my knowledge of the technical terms and the participants' accents (Saudi, Egyptian, Tunisian, and Sudanese); and fourth, to be able, as the conductor of the interviews, "to fill in places where the tape is poor quality" (Merriam, 2009, p. 110). As for the format of the transcription, I wrote the interviewer's questions in bold to make the reading process easier. A single spacing between lines was applied, and a margin was left on both sides of the pages to add notes or codes (Merriam, 2009).

When it came to the group interviews, I transcribed the responses of each participant separately; however, relevant comments from the other participants were inserted. The small number of the group facilitated the identification of the speaker's voice later on during transcription (Whatts & Ebbutt, 1987). Also, to

make sure that I could identify who was speaking, I made sure to address each participant by her own name in the interview questions. In this respect, Lewis (1992) argues that in interviews that are audio-recorded, the identification of individual speakers may not be an easy task; therefore, it is always recommended for the interviewer to include frequent reference to each speaker's name.

3.7.2 Data Translations

The individual and group interviews were carried out with Arabic-speaking lecturers and students who could have the interview in Arabic only; thus, the interviews were conducted in Arabic. This demanded translation of the data collected into the English language. The translation was a necessary procedure so that direct quotation could be used in the write up (Nes, Abma, & Jonsson, 2010). Furthermore, "rich descriptions with the use of quotes of participants are considered to contribute to trustworthiness in qualitative research" (Nes, et al., 2010, p. 315-316). Moreover, it was pre-planned that Nvivo would be the software used to code the data. Hence, translation of the data was necessary because the programme does not support the Arabic language.

To ensure accuracy of translation, the services of a professional Arabic-English translator were sought. This is in line with Nes, et al.'s (2010) recommendation that data translation should be done with the assistance of a professional translator in order to improve the credibility of the data. Then, I checked the translations again to make sure there were no misunderstandings or loss of content.

To decide on the translation mode, whether to stay close to literal translation or to paraphrasing, I consulted an Arabic-speaking associate professor in TESOL at Exeter University. His advice was to stay close to literal translation as long as it could convey the meaning; this was to respect the participants' choice of words and style. His advice was followed consistently throughout the translation.

Nevertheless, there was a need to paraphrase some sentences or expressions that would not make sense for an English speaker if translated literally. To this

effect, Neuman (1997) cited in Andrade (2009) points out that the translator must not tamper with the participants' points of view unless there is a need to make necessary changes to render the translation intelligible to readers. Indeed, Nes, et al. (2010) argue that concepts in one language are sometimes understood differently in another.

The translation of data was thus informed by the above-mentioned views. For example, in one interview, a lecturer said, in Arabic transliteration, "Ana Amshi Bi Hadhihi At-Tariqah". If this expression was to be literally translated, it would read, "I walk in this way". However, the meaning was "I adopt this technique". Another example, when the talk touched on individual differences as a challenge might hinder the lecturer from applying or promoting MC, a student said, in Arabic, "The Doctor Toqatte Roha". However, she meant that the doctor/lecturer cannot cater to students' individual differences due to the students' large number. As for the data collected via observations, only the parts used as quotations and appendices were translated.

3.8 Data Analysis

Savin-Baden and Major (2013) defined qualitative data analysis as "an ongoing process that involves breaking data into meaningful parts for the purpose of examining them … with an intentional effort toward answering the research questions" (p. 434). Therefore, the first step in the data analysis process was to transcribe and translate the interviews, group interviews, and classroom observations into English. The corpus of data was then carefully examined and read several times to identify patterns, and label them with codes to recognise themes (Savin-Baden & Major, 2013). This process of reading and re-reading the text helps guarantee that the data are correctly classified (Taylor-Powell & Renner, 2003). Similarly, Zohar and Schwartzer (2005) outline that repeated readings of the transcripts bring to attention new issues that can develop into new categories.

In this study, analysis of the data was done in accordance with the thematic analysis approach. According to Ritchie et al. (2013), thematic analysis involves:

> … discovering, interpreting and reporting patterns and clusters of meaning within data. Working systematically through text, the researcher identifies topics that are progressively integrated into higher-order key themes, the importance of which lies in their ability to address the overall research question (Ritchie et al., 2013, p. 271).

Thematic analysis is a flexible method that suits an array of epistemologies and research questions (Braun & Clarke, 2006). It functions as a constructionist method, examining the ways events, experiences, and meanings operate within society (Braun & Clarke, 2006). Therefore, thematic analysis was applied to serve the primary purpose and the epistemological stance of this inquiry.

The thematic analysis approach further helped me in examination of relationships, the examination of differences and the examination of commonalities (Gibson & Brown, 2009) while carrying out the data analysis. The first step to analyse the data focused on the process of data coding. According to Gibson and Brown (2009), the ultimate purpose of coding is to bring to attention commonalities within a dataset; this is achieved through the process of category creation that describes a general feature in the data.

The significant amount of information collected for the purpose of this study necessitated the implementation of different techniques to code the data and promote credibility. As mentioned earlier in this chapter it was pre-planned to apply Nvivo to code and analyse data. Durkin (1997) cited in Thomas (2006) argued when there are large amounts of text data, qualitative analysis software can speed up the coding process. However, I started using Nvivo, but due to unfamiliarity and the time required in training in using the programme, I decided not to use it. In this respect, Robson (2011) states:

> … when deciding whether or not to use specialist software, the advantages of time saving and efficiency when analysing large amounts of data (once you have gained familiarity with a package), should be weighed against the time and efforts taken to gain that familiarity (Robson, 2011, p. 472).

The coding process was thus done manually utilising two approaches: inductive and deductive coding. Inductive coding refers to the codes that emerge directly from the data (Savin-Baden & Major, 2013). Similarly, Thomas (2006) outlines inductive analysis as a tool used to produce patterns and groups through an analysis of pure collected information. Braun and Clarke (2006) define inductive

analysis as "a process of coding the data without trying to fit it into a preexisting coding frame, or the researcher's analytic preconceptions" (p. 83). Similarly, Drew, Hardman, and Hosp (2014), stated this form of analysis includes those which construct and interpret data continuously, rather than searching for a specific results or patterns.

In contrast, deductive analysis tends to be driven by the researcher's theoretical position, and is therefore more analyst drive (Braun & Clarke, 2006). The codes used in deductive analysis are borrowed from prior literature or theory (Savin-Baden & Major, 2013). As described by Drew et al. (2014), the process by which research is conducted with firm ideas as to the aims, suspected patterns and hypothesis of the study may be termed "deductive analysis" (p. 17). According to Thomas (2006), in practice, many qualitative studies use both deductive and inductive analysis. In this study, I applied both approaches; inductive and deductive, as they have added value to this inquiry.

To code the data, firstly, I read the transcriptions (the Arabic and English versions) several times to familiarise myself with their contents, memo ideas, think of ways to organise the data, and consider the sufficiency of the data collected (Creswell, 2014). Then, the inductive analysis approach was applied; the transcriptions were carefully read and re-read to divide chunks of data into segments, refine codes to avoid overlap and redundancy, and integrate codes into broad themes (Creswell, 2014). The implementation of the inductive approach is advisable as it stands on a solid foundation of careful and detailed observations and quotations (Patton, 2002, cited in Allamnakhrah, 2013). In addition, this allows for a simple and useful go-to framework for the exploration of qualitative information, leading to solid conclusions (Thomas, 2006). Deductive coding was also utilised through the reliance on categories drawn from the literature written about metacognition and metacognitive skills. Drawing on the literature in the field is not only capable of enriching the categorisation of the data by suggesting additional categories, but also capable of refining the existing categories and themes (Zohar & Schwartzer, 2005).

Later, themes were divided into main and sub-themes. The main themes were defined and given a description when it was needed; doing so facilitated not only the combination of themes, but also established links between them

(Taylor-Powell & Renner, 2003). The manipulation of inductive and deductive analysis allowed me to disregard data that did not fall under any functional theme (Creswell, 2014). As such, if the results are to be useful, the researcher is required to judge the information gathered on its pertinence to the research (Thomas, 2006).

The inductive analysis of lecturers' semi-structured interviews generated about 68 themes/categories, i.e. benefits of metacognition, metacognition and human development (see Appendix, N). To minimise this large amount of themes, I refined, excluded, reorganised, and then grouped them. Consequently, the final analysis of interview data comprised six main themes, each one with sub-themes (see Chapter Four). For instance, the following sub-themes were grouped and presented under one main theme namely, 'Lecturers' perceptions of the teaching of metacognitive skills'; metacognitive pedagogies, transfer of planning and evaluating skills to daily life, metacognition: general vs. domain-specificity, and lecturers' questions in the classroom and their effectiveness in the development of metacognition.

With regard to deductive analysis, for example during reading metacognition literature I noticed some issues that are still a subject of scholarly debate such as whether metacognition is a conscious or not (Efklides, 2008; Veenman et al., 2006), and whether metacognition is general or domain-specific (Schraw, 1998, Veenman et al., 2006). I developed interest in these issues and kept them in mind while conducting the thematic analysis. Another example, Schraw and Moshman's (1995) categories of metacognition, including planning, monitoring, and evaluating, was used to categorise related data in my study.

Also, to avoid weak wording of themes, I benefited from some of those used in literature, for example the sub-theme, "metacognition: general vs. domain-specificity" is similar to that reported in Veenman and his colleague's article (2006) (e.g. General vs. Domain-Specificity of Metacognition) (p. 7). Appendix (O) shows examples of the thematic analysis of interviews, group interview, and classroom observation.

To investigate the understanding and extent of application of metacognition and metacognitive skills, as well as potential factors hindering their promotion in HE in KSA, I stepped back and sought to form meaning about the phenomenon

under study, based on my own findings, personal views and past studies (Creswell, 2014), as will be reported later in the discussion chapter.

3.9   Ethical Considerations

Research ethics are defined as the moral principles and ethical conduct that have to be observed in any academic research (Wellington,   2000).   Leading research bodies such as the American Educational Research Association (AERA), the Social Researcher Associations (SRA) and the British Educational Research Association (BERA) have published clear ethical guidelines for those who are interested in educational research. Ethical principles are to be upheld at all times and any deviation from them is intolerable (Ritchie et al., 2013).

The researcher must ensure that no harm, however small, to participants may occur as a result of their participation (Ritchie et al., 2013). Also, amongst the most important ethical principles are the protection of anonymity and confidentiality of data; the identity of the participants must remain unidentifiable at all times (Ritchie et al., 2013). Burgess (1989) also asserted the key ethical principles that must be observed by researchers are: no harm resulting from participation; anonymity; confidentiality; and informed consent. Informed consent has to contain all the necessary information about the nature of the study and participation.

All the aforementioned principles were upheld in all phases of my research. To ensure the observance of all ethical considerations in this study, firstly, I obtained a signed informed consent from each lecturer and student participant, and they kept a copy of it for themselves. This practice matches the BERA's guidelines (2011) that highlight the necessity to obtain the informed consent and to ensure that the decision to participate in the study was made on a voluntary basis. The guidelines consider this procedure as an ethical pre-requisite to the conduction of research. BERA's guidelines also assert that the study participants must be made fully aware of all the aspects that they will be involved in, and how their involvement will add value to the study. Thus, after obtaining the lecturer participants' names and contact numbers, I visited each lecturer in her office, and provided her with the study information sheet. The

information sheet included a description of the main purpose of the study, the procedures that the lecturer would be involved in, how confidentiality was to be protected and how the data would be handled. Each lecturer was also provided with the researcher's and her supervisors' contact details, in case there was a need to communicate with any of them for any reason.

As for the student participants, before interviewing them, I gave each one of them the information sheet that provided them with similar details to what was provided to the lecturers. No pressure of any type was exerted on the participants to agree to take part in the study. For example, I was aware of the fact that "in many situations gatekeepers are also in a position of power over participant groups" (Ritchie et al., 2013, p. 93). I therefore attempted to ensure that each participant was participating voluntarily and that there was no pressure applied by the heads of the departments on the lecturers, nor by the lecturers on the students.

In line with Ritchie et al. (2013) and Shenton's (2004) assertion, the information sheets stated very clearly that the lecturers and students could choose to accept or refuse to take part in the study with no negative consequences on them; as a result of doing so, the data collection sessions would only involve those who were willing to participate and prepared to provide data freely and openly.

Indeed, to be clear about the implications of participation in advance helped the participants to "think about how much they want to say and how they will limit disclosure" (Ritchie et al., 2013, p. 94). The information sheet was presented in Arabic to make sure the participants could fully understand it (Savin-Baden & Major, 2013).

The confidentiality principle was preserved during and after the conduction of the study. Confidentiality "ensures that the treatment of information that a subject has shared in trust will not be divulged in ways different to the permission already granted" (Savin-Baden & Major, 2013, p. 326). To address this matter, I did not identify the university nor the participants. I was also careful not to share data gathered between departments (Kindergarten, Special education, Art education), or even between colleagues working in the same unit. By doing this, I achieved the confidentiality principle and considered the

sensitivity of the study context. For example, I was aware that such issues related to professional performance would be a sensitive matter for some educators whether Saudi or none-Saudi. Displaying such data might harm them and affect their job or evaluation or their self-belief. However, I have to acknowledge that addressing confidentiality was quite difficult in group interviews because there was the risk of participants not respecting confidentiality of what was said in group (Ritchie et al., 2013). This matches Lewis's (1992) argument that confidentiality is a difficult issue to address when using group interviews. Thus, the procedure that I could follow was to make students agree not to uncover information that had been shared (Ritchie et al., 2013).

Regarding anonymity, BERA's ethical guidelines (2011) assert that it is the right of participants to ensure that their data will be handled in a manner that respects their privacy, anonymity and ensures complete confidentiality. To keep the identity of the participants anonymous, I explained to them that I would not use their actual names. The initial plan was to use letters such as A, B, C, etc. to refer to them. However, later I found it more appropriate to replace a letter with a pseudonym when a reference to a quotation was made. Moreover, to handle the privacy issue, I ensured there was no access to identifying data by storing records in locked files (Savin-Baden & Major, 2013).

Another important ethical principle that was addressed in this inquiry was informing the participants that they had the full right to withdraw from participation at any time; it was made clear to them that if they decided to withdraw, there would be no consequences to their decisions. In this context, BERA's (2011) ethical guidelines make it clear that "researchers must recognize the right of any participants to withdraw from the research for any or no reason, and at any time" (p. 6). Shenton, (2004) argues that researchers must accept the right of participants to withdraw from the project at any point, and should make this clear to participants; he added that a researcher should not even require the participants to provide any explanation regarding this matter. The guiding principle for this study was therefore, "our participants are not different from us; they are us" (Savin-Baden & Major, 2013, p. 326), and I always affirmed their right to withdraw from participation. For instance, a lecturer participant who worked under contract initially showed willingness to participate;

however, when I asked her to sign the informed consent she became unsure. I explained, the signature was not binding, and she could withdraw at any time, with or without reasons, and that her data would not be used if she decided not to continue.

To carry out this study, I obtained a Certificate of Ethical Approval from the Graduate School of Education at the University of Exeter, a copy of this ethical approval is located in Appendix (P). Also, a formal permission from the COE in Saudi Arabia was needed (Appendix, Q). A formal request was sent to the dean of the COE wherein the study took place. The application included a brief description of the study's problem statement, significance, questions, design, methodology, data collection methods, required participants, ethical considerations, and data collection time and duration. The request also provided the timetable required for data collection (see Appendix, R). See research limitations and issues (Chapter Six, section 6.3) for further explanation of how I addressed ethical considerations taking into account Saudi culture.

3.10 Summary of the Chapter

This chapter has expounded the interpretive approach that best corresponds with the primary purpose and objectives of my study, and engaged in reflexivity. The chapter offered detail justifications of the case study as a research design in this inquiry. It   further highlighted the sampling technique and the procedures of participants' selection. The chapter has explained methods and processes of data collection and analysis, along with the issue of assuring credibility and dependability. Moreover, the chapter presented the study's ethical considerations. The following chapter will illustrate the research findings of the presence and promotion of metacognitive skills in lecturers' teaching practices from the perspectives of both lecturers and students as well as classroom observations.

4 Chapter Four: Findings

4.1 Overview of the Chapter

This chapter reports the study findings. Firstly, I begin with a presentation of the observation findings, followed by the semi-structured interview data, and then the group interview outcomes. Finally, I provide an overview perspective regarding the findings that emerged from the three instruments. In this chapter and the following chapters I use MC to refer to metacognition and MS to refer to metacognitive skills.

4.2 Lectures Room Observations: Findings

The analysis of classroom observations generated the following four main themes as set out in the table below.

Table 4.1 Summary of the Findings from Lecture Room Observations

No	Main Themes	Content	Examples
1	Presence and Promotion of MS in the lecture rooms (section 4.2.1)	Presence and Promotion of planning skill	E.g. Clarifying the lecture goals
		Presence and Promotion of monitoring skill	E, g. Asking questions, encouraging students' questions, monitoring students' practical performance
		Presence and Promotion of evaluating skill	E.g. lecturer evaluates students, classmate evaluation, lecture's evaluation
2	Teaching strategies in the lecture rooms (section 4.2.2)	Traditional strategies	E.g. lecturing & reading, explaining & questions
		Cooperative learning	
		Reciprocal teaching	
		Practical application	
3	Engagement of students' in learning and teaching activities (section 4.2.3)	Reciprocal teaching	
		Presentations	
		Micro-teaching	
4	Lecturers' questions in the lecture rooms (section 4.2.4)	Type of questions	Factual, Structuring. Clarifying, Inference, Comparison, Redirecting Divergent
		Time for answering questions	

4.2.1 The Presence and Promotion of Metacognitive Skills in the Lecture Rooms

This subsection focuses on the application and encouragement of MS in lectures, including, planning, monitoring and evaluating. *Planning skill* involves features such as identifying goals, learning strategies, and learning resources. Analysis of data from the observations found that planning skills were almost non-existent in lecturers' teaching practice; the overwhelming number of lecturer participants did not pay attention to any of these aspects during their teaching in the lecture rooms.

However, that does not mean that planning skills were not promoted or taught at all. Lecturers Nawal, Omaima and Anisa attempted to integrate planning skills within their lecture during the second observation. For instance, Omaima and Anisa from the Kindergarten department started lectures by clarifying the lecture's goals. Omaima presented the lecture's goals and indicated the value of this approach, stating,

> in today's lecture, I am going to teach you about development difficulties, such as attention and memorisation ... Read about the objectives of the lecture from the PowerPoint slide so that you can remember them and this will also help you to focus more (Omaima, Kindergarten, 2nd observation).

Anisa followed a similar technique, but she also revised the elements of preparing a plan as the students were required to write a lesson plan as an activity for the Development of Scientific, Environmental and Mathematical Concepts module. She explained:

> I would like you to think about the components of a plan because I come across mistakes in preparation. What is the first step? What is the next step? And so on … [There was a discussion and collective answers from the students]. The general goal, behavioural procedural goals, strategies, procedures, tools that are linked to the goal and strategies, explaining the activity and evaluation (Anisa, Kindergarten, 2nd observation).

This reveals some lecturer participants at least encouraging their students to utilise planning skills in their own practice when they become in-service teachers.

Monitoring skills were also largely absent in the lecture rooms, with only a few lecturers making the effort to monitor the progress of their lecture. For example,

Shadia from the Kindergarten department asked some questions after each part of her lecture to monitor students' understanding of the lecture topic. She also gave students chances to ask questions during the lecture. She explained that allowing students to ask questions during the class session can contribute to enhancing their ability to monitor themselves, whereby they question their understanding and ask about things that are still not clear.

Another example of the presence of the monitoring skill appeared in the practical sessions of Art Education modules. I noticed that Amorah, Nadia, and Dalal were keen on monitoring students' project progress and provided them with comments and suggestions. For example, in the 'Arabic Calligraphy' module, Nadia moved around the lab and checked students' work. Regarding which, her commentary on the work of Student 1 was;

> **Nadia**: The colour's heavy and it needs a brush that is smaller, almost half the size of the brush you are using now. A big brush will impose the colour and remove its effect. While you are using the brush on the picture, and a little bit of a red colour so their final colour will be purple.

> **Student 1**: When I transferred the design one of the letters became separated.

> **Nadia**: When you start colouring the letter, then stretch it upwards (Nadia, Art Education, 3rd observation).

However, such pro-active monitoring was rare in the observations.

With regards to *evaluating skills*, I noticed there was an activating of this in some lecture rooms. In some cases, the evaluation of a student's performance was done by the lecturer herself, however, in other cases the students were required to evaluate the performance of their classmates. Both approaches would assist the development of students' ability to evaluate.

Evidence of the promotion of evaluating skills appeared in Anisa, Omaima, Nadia and Nihad's classroom observations. For example, Omaima from the Kindergarten Department explained that, for the Children's Literature module, the students are required to plan a play and present it as a part of their assessment. Indeed, I attended three plays in one session. At the beginning, Omaima read and explained the evaluation criteria: the theatre's design and its suitability for the topic, preparing the puppets, whether the play's introduction is

suitable for the topic, sound effects, variation in vocal pitch and puppets' movements. She added an instruction for students to observe one another so that they could see and avoid any mistakes they might make and benefit from their mistakes.

The evaluation process was undertaken directly after each play, and an example of this was as follows:

> **Omaima**: What have you noticed about the student who controlled the banana puppet?
> **Student 1**:It was upside down.
> **Student2:** It was moving all the time.
> **Omaima:** That's correct.
> **Omaima:** Who noticed anything else? You should have a critical eye.
> **Omaima:** Do you have any other criticisms?
> **Student 3**: The voice was low.
> **Omaima:** You need to raise your voice and memorise the song.
> **Omaima:** Your performance was good; you all got 10 marks except two of you.
> **Omaima:** The timing conforms to the laid-out plan (Omaima, Kindergarten, 3rd observation).

Based on my observations the evaluation of each play or presentation was performed mostly by the lecturers. Moreover, they did not give an adequate space for it, because of the limited time and the number of students, which reached 65 students in the theoretical sessions.

However, lecturers did encourage students to share their views. For example, when Omaima noticed that a student had hesitated in expressing her opinion she encouraged her and said she was giving constructive criticism so that the student could learn. This was an example of a guided evaluation that built on concrete and explicit criteria. There was also an extensive evaluation, during which students evaluated their classmates based on their personal point of view or what they had learned before in other courses, as was the case in Anisa and Nihad's lecture rooms.

A lecture's evaluation happened in the second observation of Noria from Kindergarten department, when she attempted to obtain feedback from students about the lecture. She stopped the lecture and asked the students if they found the lecture easy? The students' answered that it was good, and interesting, and the lecturer accepted this answer. However, I found this

question had no significant value as it did not involve any evaluation process and no items were subject to scrutiny.

Analysis of the observational data showed that lecturers dealt with planning, monitoring, and evaluating skill in a limited way, as regular thinking skills, with no reflection or self-questioning, rather than in a metacognitive manner. Further explanation of this point is provided later in section 4.3.3.

4.2.2 Teaching Strategies in the Lecture Rooms: Lecturing Method

Analysis of the lecture room observations reveals that teaching was mostly undertaken in a traditional manner, such as using the *lecturing and reading method*. For example, Amina from Art Education went through the lesson by reading only from PowerPoint. She read each point with its details and at the end, she asked 'Are there any questions?', which was her teaching style in both observations of her classes.

Another method that commonly appeared was *explaining the lesson and allowing for some questions*. However, this questioning did not involve providing sufficient time for students to give thoughtful or full answers. This was observed in the lecture rooms in all three departments. What follows is an example from a Special Education lecture:

> **Manar**: Consciousness is a sensory experience system.
> **Manar**: How is consciousness a sensory experience system?
> **Student:** Through the senses, it regulates previous experience.
> **Manar**: Consciousness is used; it connects with people via the senses that are part of human beings.
> **Manar**: So, the sensory experience system, how can I contain these feelings? Consciousness differs from one person to another, but it is possible that two people might share the same stimulants.
> **Manar**: For example, if I show you a child's picture in Africa, what kind of feeling do you get?
> **Student**: A famine.
> **Manar**: That's right; what is the feeling?
> **Student**: Different.
> **Manar**: The level of sensory experience that you have acquired; the extent to which the picture has impacted on her feelings? How did it affect her feelings? Where is the difference in terms of the level of feelings that form as a result of the senses?
> **Student**: A feeling might differ from one subject to another depending on the level of interest.

Manar: Correct. That's why there are blind people who have insight and who comprehend matters in a different way than those who have sight (Manar, Special Education, 2nd observation).

Cooperative learning as a teaching strategy appeared once, during the second observation of Nawal from Special Education department. Nawal firstly clarified the lecture title 'Rehabilitation of People with Special Needs'. Then, she identified the teaching strategies and said, "I would like today to apply cooperative learning". The students were divided into six groups of ten students, with each group being required to gather information about one type of rehabilitation from academic, social and vocational categories. She also identified the main points that each group should cover. Then, each group shared the information they had gathered from the Internet with the whole class. In addition, some questions were asked by the lecturer to obtain more explanations.

The physical conditions of the lecture room did not facilitate the application of this teaching strategy. Interaction between the students was lacking due to the room layout which prevented students from turning their chairs to face one another and work or discuss as groups. Moreover, the questions that were asked did not activate students' thinking or thinking about thinking. It focused rather on the subject content.

Reciprocal teaching strategy was a teaching style that took place only in the module Children's Drawings and Stages of Their Development. In this module, lecturer Nadia from Art Education divided the subject content amongst the students and, then, required the students to teach. In both observations of the module, the students performed the teaching with the support of the lecturer. She provided more explanation and asked questions related to the content; the questions directed to both the student lecturer and the student audience. Then, the student lecturer received an oral evaluation from her classmates, and the lecturer subsequently offered the same.

Practical application was another teaching strategy used by the Art Education lecturers in practical sessions. The following observation record shows how this was applied in Dalal's classroom in the lesson titled 'Creating a shape using porcelain with different effects (hollowing – addition)'. Firstly, Dalal commented on Hanadi's work and then started to teach her:

Dalal helped the student roll out the clay and the outside mould was created.

Hanadi: The clay is easily getting fractured.

Dalal: This is not a big problem. The problem is in the material of the clay. It will work in the end. There is no need for everything to be perfect at the beginning.

Hanadi made a pot and Dalal taught her how to make the base for the pot.

Dalal tweaked the base of the model with the student and then told her to add a sea-like porcelain effect for the inside of the pot. She told Hanadi to use her mobile phone and to get help from the intranet by searching for sea-like porcelain effects, for example, a starfish.

Hanadi showed Dalal one picture but the lecturer told the student that she did not want a picture; rather, she wanted the student to look for porcelain effects.

Dalal started searching on the mobile with the student, then she told the student that she liked an effect that looks like a starfish.

Hanadi created the effect of a starfish on her model and showed it to the lecturer.

Dalal: The starfish that you created is not beautiful.

Hanadi discussed with her friend, Majd, what happened and how the lecturer did not like the starfish that she had created.

Majd asked the reason why. Hanadi replied that the lecturer did not like the way she cut the shape.

Majd: Draw the starfish but do not cut it, and wait until the lecturer comes to you and teaches you how to cut it.

Dalal: Reduce the size of the starfish. Create more than one sample and then let us decide. Pay attention, we need to cut it in a very good way.

Dalal taught the student how to cut the shape and then she told her to make more than one and to vary the sizes. The lecturer told the student that she did not have to make all the shapes flat. Rather, the student could have some protruding ones by adding a piece of clay, for example, to give the sensation of a 3D object.

Hanadi: How can I make something similar to what is in the picture?

Dalal: It will be difficult. You need to make it separately. If you want to create shapes like the ones in the picture you need to create them separately. Big shapes, for example, to cover the inside of the plate. (Dalal, Art Education, 1st observation).

This exchange provided an opportunity for practical application, which was facilitated by the lecturer. However, the student appeared very dependent on the teacher and not very self-regulated.

Despite the existence of practical lessons, they were observed only in the Art Education classes based on the nature of the specialisation practical subjects. Thus, it can be noted that traditional teaching methods were the common approach. This could be attributed to several reasons: covering a large amount of subject matter; it being an easy method that does not need much preparation; a lecturer's tendency/preference; a lack of knowledge about other

teaching methods; students' large numbers; and lecture rooms' design not being conducive to applying active teaching methods. I would further add that focusing on the lecture method might indicate in the first place that delivering information is the primary goal for lecturers. Moreover, there is no requirement for additional time from the lecturer, compared to what is required for active teaching methods. Further, there is no consideration for meeting students' individual differences. In addition, there is no possibility of moving away from the subject of the lesson.

4.2.3 Engagement of Students' in Learning and Teaching Activities

In the three departments, reciprocal teaching, presentations, and micro-teaching were observed as the activities that most engaged students in the teaching and learning process. A student or group of students would present or teach a topic/part of the topic and then the lecturer and classmates would evaluate. This process occurred in Anisa, Omaima, Nadia, Nihad and Manar's classes.

At the end of some observations, a lecturer allocated one hour to these activities. I observed that these activities also aimed to deliver infosrmation, as some of the topics were parts of the subject content.

4.2.4 Lecturers' Questions in the Lecture Rooms

Findings revealed the following types of questions: factual, structuring, clarifying, inference, comparison, redirection, and divergent questions. Table 4.2 (below) provides the definitions of some types of questions.

Table 4.2 Shows the Definitions of Some Types of Questions

Type of A question	Definition	Examples
Factual questions	Questions which require the student to recall specific information s/he has previously learned. Often these use who, what, when, where, etc.	• Simple bits of information
Structuring questions	Questions related to the setting in which learning is occurring.	
Probing questions	Series of questions which require students to go beyond the first response. Subsequent teacher questions are formed based on the student's response.	• Clarifying • Prompting • Redirection to another student
Inference questions	Higher order thinking questions, which require inductive or deductive reasoning.	• Inductive • Deductive
Comparison question	Higher order thinking questions which require students to determine if ideas/objects are similar, dissimilar, unrelated, or contradictory.	
Divergent questions	Questions with no right or wrong answers, but which encourage exploration of possibilities. Requires both concrete and abstract thinking to arrive at an appropriate response.	
Higher order thinking	Questions which require students to figure out an answer rather than remember one. Requires generalisation related to facts in meaningful patterns.	• Evaluation • Inference • Comparison • Application • Problem-solving
Application question	Higher order thinking questions which require students to use a concept or principle in a context different from that in which s/he learned it.	
Problem-solving	Higher order thinking questions which require students to use previously learned knowledge to solve a problem.	
Open questions	Questions used to promote discussion or student interaction.	

Resource: Teaching and Learning Center; University of Nebraska-Lincoln (2016)

Factual questions were found to be regularly deployed in Dalal, Afaf, Anisa, Shadia, Manar, and Noria's classrooms. Some were asked at the beginning of the lecture, some after each explained part, and some at the end of the lecture. Examples include: "What are the types of concepts in your opinion? How does the unconscious express itself? What was the culture of Mesopotamia?"

Structuring questions (questions checking comprehension) were also commonly asked in the three departments' classes. Some lecturers raised them after the

teaching of each part of the lesson, such as Shadia, Manar, and Noria, while others asked them at the end. Some examples were: "These are the speech disorders. Do you have any questions?" "Is the lesson clear about voice disorders?" "Is the lecture clear?" "Are there any questions?" "Is the explanation clear?"

Clarifying questions were also used. For example, Nadia applied them a lot on the Children's Drawings and Stages of Their Developments module, as seen in the following,

> **Student teacher**: The organic style is different in that it registers the relationship between what is seen and felt and the outside objects
> **Nadia**: What does this mean? What does it mean when I say draw an organic or geometric shape or object?
> **Nadia**: What do these drawings contain?
> **Student teacher**: The romantic style: It is clearer in women's drawings than men's.
> **Nadia**: What does this mean? What is important is what distinguishes each style (Nadia, Art Education, 2nd observation).

Inference questions appeared once in Nihad's class. The lesson was about 'Early Intervention' and she started the lecture by asking some questions until she reached the lecture's topic, as follows:

> **Nihad**: Who can tell me when mistakes occur in relation to diagnosing mentally impaired children? (No response from the students).
> **Nihad**: Give me answers based on your opinions.
> **Student**: Differences in defining mental impairment.
> **Nihad**: Yes, differences in definition can result in an error in diagnosis. What are some of the differences that might happen?
> **Student**: Intelligence tests.
> **Nihad**: Yes, if intelligence tests are not accurate, realistic and confidential, they might result in an error in diagnosis.
> **Nihad**: What is the solution to a misdiagnosing of mental impairment?
> **Student**: An early intervention.
> **Nihad**: Yes, that's right, and this is the topic of our lecture today (Nihad, Special Education, 2nd observation).

Comparison questions were observed in the second observation of Dalal from Art Education. For example, "What is the difference between sculpture in Mesopotamian culture and ancient Egyptian culture?" "Why is ancient Egyptian culture stronger than Mesopotamian culture?" Another example appeared in Nihad's lecture, which was a combination of a comparison question and redirecting the question to another student.

Nihad: What is the difference between mental impairment/retardation and a mental disease? (No answer from students).
Nihad (rewording the question): What is the difference between madness and mental impairment?
Student 1: Madness is continuous but mental impairment can change.
Nihad: Who would like to correct this answer? (No response from the students).
Nihad: I will simplify the question; is there a cure for mental impairment? Is there a cure for mental diseases?
Student 2: No.
Student 3: Yes.
Nihad: An illness can be caused by pressure and psychological reasons and a mentally-ill person can receive treatment (treatment sessions, medications) that help him or her to recover. But when a person becomes mentally impaired due to reasons such as: wrapping of the umbilical cord that causes brain damage, lack of oxygen that causes brain damage. In such cases, cells cannot be brought back to life. (Nihad, Special Education, 2nd observation).

The *divergent question* was another example of lecturers' questions in the lecture rooms. This form appeared once in Nadia's class, as shown in the script below.

Nadia: How can I establish a relationship with a child? For example, if I explained the lesson and a student refused to work, what should I do in this situation?
Student 1: Use reinforcement.
Nadia: How would I use reinforcement with her?
Student 1: Tell her that you will give her a prize.
Nadia: Fine, what if the student was in middle school, what would you do?
Student 2: I would use reinforcement through grades.
Nadia: Possibly.
Student 3: I would tell the student that there is an exhibition where she can exhibit her work.
Nadia: This might be a solution.
Student 4: What if the student was of a shy personality?
Nadia: How would you help in this case?
Student 4: I would offer to help her. I would take her to a specialised social worker.
Nadia: Possibly.
Student 5: I would show her the work of her friends.
Nadia: Possibly.
Student 6: I would ask her to work in a group.
Nadia: Possibly.
Nadia: Are these all the possible solutions? What if you have tried all these solutions and the student still doesn't respond?
Student 6: It's her problem then.
Student 7: I would inform her parents.
Nadia: Possibly.
Student 7: What would be a good solution, then?

Nadia: Putting pressure on the student is not a solution. The student might be in need of attention. Therefore, treat her with patience and leniency. Talk to her alone in private. Let her work with her friends. Use leniency with her and give her attention because she is in her teens (Nadia, Art Education, 2nd observation).

Findings showed that some lecturers such as Shadia, Afaf, and Noria opened the door for students to ask questions. However, few students took advantage and asked. I counted only four student questions being asked in response to this invitation. For example, a special education student asked, "If a student was suffering from misshapen teeth, what therapeutic programme does she require?" Another example from Kindergarten classrooms, "If a teacher was telling a story in the reading corner, how can she observe children in other corners?" This shows that few students asked questions, and that most questions came from lecturers.

The available data shows that question responses were not allocated adequate time. Several lecturer participants did not allow space for students to think, answer or modify their answers. They would ask a question and either answer it themselves or correct the student's answer without prompting her to think about her answer and rectify it herself. An example of this:

> **Dalal**: Why were the Semites not known for a lot of sculpture? Why did they rely more on bas-relief?
> **Dalal**: Because they did not have rocks.
> **Dalal**: What are the characteristics of their bas-reliefs (meaning in the Mesopotamian culture)?
> **Dalal**: The details were clear (Dalal, Art Education, 2nd observation).

Factual and structuring questions seemed to be the most common questions asked in the classrooms. Other types of questions rarely occurred and this would usually only happen by accident.

4.3 Semi-Structured Interviews: Findings

The semi-structured interviews were designed to address the research questions numbers 1, 2, 4, and 5 (see Table 3.1, Chapter three). Having analysed the data I found six main themes as displayed in the tables below:

Table 4.3 Summary of Findings About Metacognition Conception, Application or Promotion of Metacognitive Skills from Lecturers' Interviews and Teaching of Metacognitive Skills

No	Main Themes	Sub-Themes	Examples
1	Conception of MC (section 4.3.1)	Misconception Superficial conception Comprehensive conception	
		Conscious vs. unconscious metacognitive processes	
2	Application or promotion of MS: Planning, Monitoring, and Evaluating (section 4.3.2)		Planning: e.g., requiring students to plan, Providing plan elements
			Monitoring: e.g., asking questions, asking students to provide examples, encouraging students' questions, practical application, students' interaction.
			Evaluating: e.g., encouraging classmate evaluating, self-evaluating, lecture's evaluating, Evaluation; open/guided with criteria
3	Teaching of MS (section 4.3.3)	Metacognitive pedagogies	Discussion & Dialogue, problem-solving, prompting, cooperative learning, self-questioning & questioning, self-learning method, micro-teaching, role-play, explicit/implicit instructions, modelling, strategic planning, brainstorming, reading, KWL strategy
		Transfer of planning & evaluating skills to daily life	
		MC: general vs domain-specificity	
		Lecturers' questions in the classroom & their effectiveness in the development of MC	Structuring, clarifying, factual, inference, open, application, prompting, divergent questions. Lecturers' responses to incorrect answerers

Table 4.4 Summary of Findings About Obstacles, Benefits of Metacognition and Solutions from Lecturers' Interviews

No	Main Themes	Sub-Themes	Examples
4	Potential challenges to the development of MC/MS (section 4.3.4)	Educational System: Pedagogies and Exams style	Rote teaching methods, students' as passive learners, types of exams, content/theory rather practice
		The University as a challenge	Absence of MC from the University guidelines, centralised system, administrative focus, lack of interactive learning environment
		Lecturers as a challenge	Teaching style, lack knowledge of MC, interests and beliefs, expectations of students
		University students as an obstacle	Number, educational & family background, motivation, academic level.
		Curriculum as a challenge	Length, content, nature
		Time as a challenge	Limited
5	The Benefits of Metacognition (section 4.3.5)		Social, academic, and career life and human development. E.g. critical thinking, Self-awareness, Self confidence, Self-improvement Self-evaluating, Responsibility, self-learner
6	Incorporating MC in HE in KSA (section 4.3.6)	University/college/department as base to develop MC	Readdressing the University vision, message and goals, raising students' & lecturers' awareness of MC, reconsidering incentives & evaluating standards of professional performance, modifying the curriculum & teaching strategies, providing interactive learning & teaching environments
		Lecturers as facilitator to develop students' MC	Applying MC in the lecture room, MC part of classroom's activities, modifying & diversifying teaching methods, diversify exam questions, increasing students' motivations for MC.

4.3.1 Lecturers' Conception of Metacognition

Findings revealed that MC is a new terminology for lecturers Afaf, Manar, Amina, Dalal, and Nadia. For example, Nadia, from Art Education, said, "No, I have no idea about it and thus, I was searching the Internet".

However, other lecturer participants stated they had heard about MC. Each one provided her own definition, although most of these were superficial conceptions or misconceptions. They defined MC as: (1) things gained through experience and values; (2) things built on a point of view; (3) an implicit curriculum; (4) an individual own thinking style; (5) applying knowledge to new situation; (6) decision making and problem solving; and (7) self-awareness and self-regulation. I noted that there was no agreement among the lecturers

regarding what MC means. Thus, I classified their responses into three levels as follows:

4.3.1.1 Misconception of Metacognition

Nawal conceived MC as,

> things that go beyond knowledge, things that we obtain from experience such as things that we receive through values (Nawal, Special Education Lecturer).

It seems that she tried to defined MC based on the literal translation of the term 'meta + cognition' rather than actual knowledge of the concept. Nawal further touched on Bloom's Taxonomy and added,

> For example, Bloom's Taxonomy refers to the classification of targets as (cognitive, kinaesthetic and affective). We apply this when we ask the students to design a [lesson] plan (Nawal, Special Education Lecturer).

I suggest she conflated Bloom's Taxonomy in her definition when attempting to develop an understanding of MC based on the interview questions. Perhaps she recognised some aspects of MS (e.g. evaluating). Hence, she associated Bloom's Taxonomy with her definition of the term, because evaluating is one of the highest components or cognitive skills of Bloom's classification of cognitive targets. It is also true that evaluating is a metacognitive skill. However, Nawal did not explain the position of this skill in the context of MC. She was unable to account for the relation between evaluating and MC.

Shadia also had a misconception of MC when she reported her understanding as being the 'implicit curriculum'. She honestly acknowledged her limited knowledge of MC, stating:

> According to my limited knowledge, metacognition is not just information or knowledge. When I give information, other implicit goals that differ from the information that I am giving are happening by chance. We call this in education the implicit curriculum (Shadia, Kindergarten Lecturer).

For Shadia, MC might be unplanned outcomes of the teaching process.

Nihad also demonstrated poor knowledge of metacognition; she was puzzled about its meaning and provided a vague and uncertain definition, claiming,

142

> Metacognition from my point of view means thinking that is built from the point of view rather than theories or a purely theoretical matter (Nihad, Special Education Lecturer).

In sum, she thought MC is a by-product of an individual's personal opinion and does not follow any theoretical base.

The above responses do not constitute an accurate definition of MC, and a closer look at these definitions indicates that they might have been given based on a literal translation of the term 'meta-cognition' rather than formal/informal knowledge or practical application of MC. For these reasons, I classified these lecturers as having a misconception of MC.

4.3.1.2 Superficial Conception

When Noria was asked about her understanding of MC, she first defined the word cognition, whereby, she said cognition refers to cognitive knowledge and mental processes such as memory, perception, and cognitive things. However, she was unable to define MC, stating that:

> I have heard about metacognition, but I do not pay much attention to it. If I think in a certain way and have my own style of thinking, it will be a thing that is organised, has a characteristic and is more accurate (Noria, Kindergarten Lecturer).

Whilst her understanding of MC seemed unclear as she did not refer to 'knowledge of cognition' or 'regulation of cognition', she did conclude that "Each individual has his/her own system", which could be considered as 'individual self-awareness' or the 'person variable' that is a part of metacognitive knowledge or declarative knowledge. Therefore, I classified her definition of MC as a superficial conception.

Omaima stated that she had heard about the term MC, which she understood as the knowledge that an individual has: it seems she was referring to 'conditional knowledge'. This appeared when she continued and took her definition in another direction, which provided MC outcomes. She added,

> When I face a new situation, I use this knowledge and employ it in the new situation…; [and] to be able to do this, it is necessary to develop certain thinking skills (Omaima, Kindergarten Lecturer).

Perhaps she viewed MC as 'knowledge transformation' that involves thinking skills.

Amorah expressed a similar idea, however, another outcome of MC appeared in her definition in that she viewed it as an individual's ability to make decisions and solve problems. She stated:

> I think … [metacognition] refers to the ability that an individual can develop to make the right decision and design an appropriate plan when faced with a problem. Of course, I mean by the right decision and appropriate plan: the ones that guide me to achieve my goal and reach the desired results. It also includes identifying the different elements of a problem and how to overcome them so my goals can be reached (Amorah, Art Education Lecturer).

In her definition of MC, she mentioned planning. She explained the role that this skill plays in solving problems and decision-making. It is unclear if she cited planning as a regular thinking skill or as a metacognitive one. Meanwhile, she cited another function or outcome of MC, namely, 'goal achieving'. Indeed, several scholars have identified knowledge transformation, decision-making, problem solving and goal achieving as MC functions or outcomes, but they do not represent the concept of MC. Thus, these lecturers understanding of MC was operating at the superficial level in that they were unable to offer clear, comprehensive and explicit understanding of MC. None of them made a distinction between the conceptualisation of and the outcomes emerging from its application.

In general, I noted that the lecturers who reported that they had heard about MC did not seem able to define it and they were uncertain in their understanding of it. Their perceptions might be built on personal points of view rather than theoretical knowledge or practical application. Evidence of their lack of certainty can be seen in phrases that they used, such as: "I think", and "I heard about it, but I hope that you will explain it". The difference between lecturers classified as having a misconception and those having a superficial understanding lies in the ability of the latter to reference some aspects of 'knowledge of cognition' and MC functions and outcomes.

4.3.1.3 Comprehensive Conception of Metacognition

Only lecturer Anisa showed a clear understanding of MC, noting that:

> Metacognition from my perspective means when a student at a personal level, understands herself, and assesses whether what she has applied will benefit her in her life or not. She has to observe, to form her cognitive structure and plan, in a way that she knows how to plan, she can implement and apply. Accordingly, she can observe, evaluate herself by self-assessment, judge herself and control herself … Moreover, apply. Thus, it will form her character, she will apply it in her life (Anisa, Kindergarten Lecturer).

Anisa focused on both components of MC, although she did not say the exact words. For example, the phrases "a student understands herself" refers to 'knowledge of cognition', while the phrases planning, observing, evaluating and "judge herself and control herself" pertain to 'regulation of cognition', or MS. Thus, her understanding of MC came close to the operational definition used in this study and therefore, I classified her as having a comprehensive conception of MC. She acknowledged that her knowledge of MC had come from reading about it.

4.3.1.4 Conscious vs. Unconscious Metacognitive Processes

Interestingly, Afaf and Manar made a point that has been a subject of debate in MC literature, which is whether MC is a conscious or automatic process. Afaf, for example, commented,

> Through your question … I felt that I have been practising it, but I need a clarification ... I mean I do it spontaneously and unconsciously, but I was not aware that I have been undertaking some of these metacognitive skills (Afaf, Special Education Lecturer).

Noria agreed and added that she usually conducted self-dialogue while teaching. She said,

> I say to myself, for example, have I asked the question in a way the students didn't understand, or asked the question in a form that is higher than their level of comprehension ... I say to myself, Okay I am going to ask the question in a different way until I make it clear and simple (Noria, Kindergarten Lecturer).

Lecturers' views seem to have been grounded on the assumption that MC develops with age and experience or it might be a natural process of an

individual's thinking that turns into an unconscious process with continuous application and familiarity. On this note, Nadia from Art Education stated that MC "is not a difficult or complicated thing but a natural thing".

4.3.2 Lecturers' Application or Promotion of Metacognitive Skills: Planning, Monitoring, and Evaluating

This subsection presents the approaches that frame lecturers' and students' engagement with planning, monitoring and evaluating skills in the lecture rooms. The findings from lecturers' interviews reveal that the overwhelming number of them believed that they do apply and promote these three skills. Evidence of this is outlined below.

According to Anisa, Noria, and Shadia, having students prepare a plan and provide them with plan elements were evidence of the promotion of a planning skill in the kindergarten department, and it is usually included as part of the students' assignments in most courses. For example, Anisa stated that she required the students to prepare a plan for a lesson, or experience, or a learning unit for some of her teaching courses, the Kindergarten Curricula module. She elaborated:

> We made a plan. What are the contents of this plan? … [the student] has to write the general goals, procedural and behavioural objectives of the subject, the strategy that she will use, tools, learning aids, how would she explain an activity, and evaluate (Anisa, Kindergarten Lecturer).

Shadia from Kindergarten yielded similar response, however, she argued the plan elements should be in the following order, "The goals, content, teaching aids, tools, strategies, and evaluating styles". She did not elaborate why she believed this to be so. One possible explanation of this is that she herself had learned planning skills in this way, whilst another possible explanation is that she was following a logical order she had identified. These elements are similar to those involved in planning as a MS, however, the promotion of this skill as Shadia listed it does not automatically engage the students in thinking about thinking as I will explain in the discussion chapter.

In the Special Education department, Nawal and Afaf stated that the promotion of planning skills appeared in modules that required preparing a teaching plan

or designing a treatment programme. For example, Nawal reported that for the Programme Preparation for Hearing Impairment module:

> The main project is about preparing an educational plan … the components of the plan are about designing a case study. [The student] does tests based on a problem, … identifies the main problem, formulates a goal… etc (Nawal, Special Education Lecturer).

Nihad from the same department outlined that they have done a lot of plans, but most of these plans were done in the strategies courses that related to educational modules. Again, this shows an extent of training and promotion of planning skills, but without a metacognitive dynamic.

In the Art Education department, the planning skill was evident as well, but they called it 'a design' and it appeared more on the practical courses according to Dalal, Nadia, and Amorah's reports. For example, Amorah stated:

> I asked the students to prepare an interior design of the villa according to a style (Islamic, Classic, Modern, etc) … The preparation of the design requires a student to draw a site sketch of the space with furniture distribution and a study of the movement paths. Of course, there are important steps, such as collecting data about the chosen style that a student will apply … She carefully studies the style details to understand its nature and employs it in the design (Amorah, Art Education Lecturer).

Dalal and Nadia provided similar responses. Nadia further distinguished between the theoretical and practical modules, saying,

> On the theoretical courses the student takes a scientific subject and learns it … [However] on the practical courses, it is possible that the student says this is a design and I am going to do it for the course on a project and I will use this colour (Nadia, Art Education Lecturer).

These responses appear to suggest that the planning skill was a normal step that needed to be taken to conduct an artistic project. However, it might not be applicable in the theoretical lectures.

Planning skills were promoted in all three departments. I contend that this skill was being taught to students as an important component of teaching, with the perception being that a teacher needs to know how to plan her lesson and reach the desirable goals. However, no evidence come to light which considered it a MS.

Evidence of the presence of monitoring skills can be found in approaches demonstrated by lecturer participants, which include: Asking questions; asking for examples; encouraging students to ask questions; students' interaction; and practical application. For instance, Dalal from Art Education reported that she sets goals for the lecture; and ask certain questions to check if the students understand or not.

Shadia likewise said that she asked questions and this would be done during and after the lecture. As she put it:

> During my teaching of one section I introduce oral questions and ask them to provide responses … This is the constructive evaluation that continues during the lecture. Also, the final evaluation is at the end of the (lecturer-week-unit) based on the topic (Shadia, Kindergarten Lecturer).

For Noria, Omaima, Nadia, Anisa and Manner asking students to give examples was another approach that helped them to monitor students' understanding or goals' achieving. However, they appeared to differ in the type of examples they requested. Omaima, for instance, reported that she usually asked for real examples from a student's context. She stated,

> when I present information to the students, I may ask them if they have noticed this or that in their sister or brother (Omaima, Kindergarten Lecturer).

Anisa from Kindergarten reported due to her having taught many courses she knew the course content and thus, she would remind the students that they studied this point on course (X); and asked them to give an example from that course. Students were thus asked to recall specific examples to evidence their understanding of course content.

Manar, Omaima and Anisa outlined another approach that would inform them about progress towards achieving goals, which was when a student asks question. Manar elaborated,

> If the student asks questions, I feel the thing that I have explained/taught was not delivered in an effective way, and this would be an indication for me to stop at this point to explain it more or give examples (Manar, Special Education Lecturer).

Contrariwise, Anisa appreciated students' questions as evidence of understanding. She explained:

> When I speak to [the student] about a topic and she asks me about a point or she asks me a question that has a connection to that topic, Like, 'What is the evidence of this?', it is evidence to me that she understood, but there is a part she wants to inquire further about (Anisa, Kindergarten Lecturer).

For the Art Education lecturers', practical application seems to have been the best suited approach to monitor students' progress towards lecture goals. Amorah for example, reported,

> Through asking students to apply the task that I have explained, if a student applies it correctly, this means she has understood, and the goal has been achieved. If a student could not do the task, I explain it to her again individually (Amorah, Art Education Lecturer).

Amina echoed similar views, arguing, through viewing the work in front of her, she can see the students' improvement, because she sees the students' work on specific things. This all evidences monitoring occurring.

Nawal from Special Education also saw practical application as a good approach to monitor achievement of goals and she provided an example of this:

> In the lesson on setting goals, I choose a student at random and I say to her, 'formulate a goal'. If she formulates a goal in a correct way, that means she has understood. If she cannot formulate a goal, this shows that she does not understand (Nawal, Special Education Lecturer).

Nawal and Amina as well saw students' interaction as a sign of goals' achieving. For example, Nawal, stated, "students' interaction is the main indicator of achieving goals".

The findings showed that the monitoring skill was taking a place in the lecture room. However, no evidence came to light that it was applied as a MS, as it was generally measuring knowledge transmission. Furthermore, there was no evidence to show that it was being promoted through lecturers' teaching practices. No instructions were given to the students to encourage these skills except art education practical session in which students were sometimes required to monitor each step before finishing the work. I further contend that the ignorance of the developing of the monitoring skill could relate to the fact

that some people are more interested in the inputs and the outputs, whereas what is in the middle, the process, is less important to them. This was explicitly identified by lecturer participant Dalal.

The evaluating process is considered part of an educators' work, and my study explored how it can be taught to students. Several approaches were engaged with by lecturer participants aimed at promoting students' ability to conduct an evaluating process, such as getting them to evaluate their classmates' performance, asking a student to conduct a self-evaluation, providing students with the criteria of evaluation, and getting students to evaluate the lecture.

With respect to having students evaluate classmates' performance, Omaima, Nawal, Nihad, Manar, Anisa, and Shadia responded that they employed this technique. Omaima, from Kindergarten, reported that she engaged the students in the evaluating process, by requiring them to evaluate their classmates' presentations. Similarly, Shadia explained that students were required to carry out micro-teaching and she elaborated upon this:

> The basis of the 'micro-teaching' is the student stands in a class or at an educational situation for the children and all her classmates carry out evaluating tasks. They identify her performance, pros and cons (Shadia, Kindergarten Lecturer).

Anisa, Kindergarten lecturer, put forward that requiring the students to evaluate each other would develop metacognition. Amina similarly stated that she encouraged students to evaluate each other as she believed that this approach would lead a student to be able to evaluate herself. She further contended that evaluating was part of art work.

Self-evaluating was reported by Omaima, Nehad, Amorah, Dalal, and Nawal, in the form of examples aimed at enhancing evaluating skills. For instance, Nawal from Special Education stated that in the Field Training course she required students to evaluate their own performance. She explained that by doing so, the student would experience the evaluator's position and develop a sense of objective evaluation. Dalal from Art Education stated that sometimes she required a student to evaluate her work by herself, though she admitted that

she liked to control this process because she believes that students had not previously learned how to conduct an objective evaluation.

Omaima acknowledged that self-evaluating might occur rarely, in specific situations. She described a situation that she faced with a student where she asked the student to evaluate herself. She stated,

> I required the student to compare her score to the evaluation criteria, and then I asked her: 'Did you do such and such' in accordance with the evaluation criteria? (Omaima, Kindergarten Lecturer).

Noria was the only one who stated that she required students to evaluate her lectures. She explained she asks students what they thought about the lecture. However, this question cannot be considered as an evaluation process, as I explained earlier in this chapter (see section 4.2.1).

Regarding the criteria of evaluation, lecturers Noria, Nawal, Amina and Omaima reported that they usually provided students with evaluation criteria. For example, Shadia stated that she,

> distributes evaluation forms … There are certain criteria for evaluation. They need to comprehend that criteria, because I do not want to evaluate her on criteria that she does not know (Shadia, Kindergarten Lecturer).

Therefore, the student was informed in advance about how she would be evaluated.

In Art Education there are specific criteria, regarding which Amina gave an example from the Pictorial Composition module. She explained,

> We evaluate the students' work based on the level of formation, the level of distribution in space, the level of relations between shapes, the level of relation between colours (Amina, Art Education Lecturer).

She provided me with the criteria that enabled her to evaluate whether work was correct or not.

In contrast, Anisa, stated that she does not provide the students with evaluation criteria. Instead, she required them to design the evaluation form. She added,

> The student should also evaluate her classmates' performance in light of what I taught and explained … They have to complete an evaluating form of their self and so on. From where will a student design the report?

151

Based on what we said, based on plan items and what we have explained. For example, how would you present a concept to a child? Are the goals written in a correct way? Is your explaining concordant with the goals? Would your learning aids help achieve the goal? And would it stimulate the children's thinking? Do you teach a child from concrete to abstract? Do you ask a child a question to learn from the known for the unknown or not? (Anisa, Kindergarten Lecturer).

Anisa believed that a student was likely to benefit more when she designs the evaluation criteria by her self.

Evaluating skills were evident in the three departments. However, it had not been given much attention in the Special Education and Art Education departments compared to the Kindergarten department. In Kindergarten department, evaluating appeared on most teaching courses (see Table 4.7), whereas in Special Education, the evaluating skill was mostly found on those courses related to teaching, i.e. Curricula Building and Development.

It was evident from interviews that planning, monitoring and evaluating skills were applied to some extent and/or promoted. However, they tended to be regular thinking skills rather than metacognitive ones, whereby no indicators reflected the application of them as MS. For example, students were taught how to plan, but it is not clear whether they engaged in a metacognitive process. There was no evidence that they were requested to think about how and why they made plans in a particular way. This suggests that MS in their correct form were not proactively taught to the students. That is, apart from Anisa who provided a comprehensive understanding of MC. She claimed that she believes that she teaches MS in an indirect way by requiring students to observe their behaviour, and then think about and reflect upon it.

Indeed, findings further showed that developing thinking in general is not a basic goal for most of them. For example, when I asked the lecturer "Besides teaching the course content, what are the other things you seek to provide your students with?" their responses included developing listening and visual skills, linking up a subject/discipline to life, acquiring deep knowledge of the subject, linking up theory with practice, widening their perception, mental development, developing religious and affective values, raising motivation, developing an artistic or creative interests, research skills and self-learning. Only Noria and

Dalal explicitly claimed that they were interested in developing thinking skills. However, observing their teaching practices did not evidence this claim.

4.3.3 Lecturers' Perceptions of the Teaching of Metacognitive Skills

The question of what teaching strategies are best for enhancing students' MS revealed an agreement on some techniques or teaching strategies and subjects that could contribute in achieving such an aim. I present these below.

4.3.3.1 Metacognitive Pedagogies

The lecturers believed that MC/MS could be taught through the application of several teaching strategies such as discussion and dialogue, problem-solving, prompting, group work/cooperative learning, self-questioning and questioning methods, self-learning methods, micro-teaching, role-play, explicit/implicit instructions, modelling, strategic planning style, brainstorming, reading, and the KWL strategy.

- **Discussion and Dialogue**

Noria, Manar and Nihad agreed that discussion and dialogue would be appropriate for enhancing MS. For example, Nihad said,

> Discussion and dialogue, you can put discussion and dialogue with emphasis because they are important … both strategies are likely to broaden a student's mind and knowledge; and this would make a lecturer more knowledgeable about a student's characteristics; what suits or does not suit him or her, what his or her capabilities and potentials are, and what he or she is lacking in this area (Nihad, Special Education Lecturer).

However, Nihad also expressed concern that these strategies might not be valuable for undergraduate students, because they do not often have the spirit of inquiry or curiosity, and do not want to know more than the subject content.

- **Problem-Solving**

Omaima, Shadia, Noria, Nawal, and Amorah recommended problem-solving strategies as a metacognitive pedagogy for enhancing MS. Amorah from Art

153

Education, for example, believed that placing students in a problem leads them to think creatively.

Omaima and Shadia from Kindergarten Department shared the value of this pedagogy in activating students' ability to think. Shadia explained that by requesting a student to solve a problem, a student thinks of a solution and passes into several steps to reach a solution. Problem solving could facilitate students' ability to infer and employ logical reasoning and thus, develop some aspects of MS.

On the contrary, Nihad believed that problem-solving strategies were inapplicable in promoting MS. She elaborated,

> We are at the university stage. The problem-solving method is a strategy that a teacher can use to teach a student, for example, the process of adding two numbers (Nihad, Special Education Lecturer).

However, it appears that she had an unclear understanding of the problem-solving method.

- **Prompting**

Prompting was another example of metacognitive pedagogy that could promote MS. Prompting could take the form of questions that would engage a student in a metacognitive process. Nawal, Omaima, Mannar, and Amina stated that they might employ these types of questions in some cases. For example, Omaima, outlined that she uses this technique if a student provided confused information:

> I might ask her, 'On what basis do you give this answer? What have we said before? What was said in the lecture?' I ask her to think about the lecture and then answer (Omaima, Kindergarten Lecturer).

This shows that prompting is seen as a significant strategy that could develop metacognition.

- **Group Work/Cooperative Learning**

Anisa, Nawal, Afaf, Omaima, and Amorah suggested cooperative learning (CL) as a metacognitive pedagogy that could play a key role in developing students' MS. Omima from Kindergarten, for example, viewed it as an effective and active learning method. She explained that she applied it in combination with problem

solving. She would divide students into groups and then, require each group to work on a story and discuss it among themselves. Afaf from Special Education also confirmed the value of CL expressing the belief that it would lead to better results and would address individual differences between students.

However, Afaf also said that CL sometimes did not reap the desired results, because some students did not like engaging to it. She said that sometimes, some students don't work as hard as their classmates. Anisa from Kindergarten raised a similar concern, pointing out that some students believed that CL made them fail.

The way CL was applied may have had a negative impact on the students' perspective of group work activities. I perceive that, in the cases above, the lecturer would identify the type of activity, individual work or group work, and then leave the whole task to the students without guidance or monitoring the process. Lecturers said that during group work the students divided the tasks amongst themselves and each one would do her task without interaction or cooperation. As a result, the desired CL may well have failed to materialise and, consequently, students would not see it as having any value. Further, in this way, it would not facilitate MC.

- **Self-Questioning and Questioning**

Amorah from Art Education remarked upon the questioning method as being helpful metacognitive pedagogy for the development of MS, stating that it has the ability to stimulate students' thinking. Omaima emphasised the self-questioning strategy, reporting,

> One of the teaching methods is to raise a problem, and then ask the student to apply the self-questioning strategy about the problem and how to solve it (Omaima, Kindergarten Lecturer).

Both lecturers had recognised the importance of a student learning how to ask key questions, as this approach would equip them with ways to apply MC, but they rarely used it.

- **Self-Learning Method**

Manar and Nihad from Special Education thought that self-learning as a metacognitive pedagogy would allow students to develop MS, and described it

as a skill that needed to be promoted. Manar claimed that by making a student like the course, she might have a passion to be a self-learner. Nihad argued that:

> Self-learning method is number one because if an individual has self-motivation, even if a teacher cannot convey a given idea by any methods possible, the student himself/herself can still learn it (Nihad, Special Education Lecturer).

On this, Nihad raised a worthwhile question: "Have we established self-learning in Saudi society or not?"

- **Micro-Teaching**

Anisa argued that the micro-teaching strategy would be a vital metacognitive pedagogy for getting students to become metacognitive thinkers. She classified it as an active learning strategy, and cited its value in developing the MS. She explained that:

> Inside micro teaching there [is] cooperative learning, group working, taking responsibility. Moreover, skills such as perception, cognition skill and application skill … the student does the application process. Also, she did a plan, and then, applied in front of me, thus, she understood the information that I explained in a lecture about how to apply (Anisa, Kindergarten Lecturer).

She believed that putting theoretical information into practice through micro-teaching could lead to the development of MS.

- **Role-Play**

Afaf from Special Education nominated role-play as a metacognitive pedagogy that could promote students' MS. She suggested that it could activate students' abilities to think and find their own solutions to solve problems.

- **Explicit/Implicit Instructions**

Nadia, Amina, and Dalal from the Art Education department reported explicit instruction as a metacognitive pedagogy for developing MS. Whilst they did not use the exact word (explicit,implicit), they provided a broad description of this pedagogy. For example, Amina suggested:

> If a lecturer gives the students a glimpse of the nature of the course from the beginning, what they will study, a glimpse of the description, a glimpse of teaching methods … subsequently, they are required to follow the same strategy. Through putting them in the frame, you are here, in one way or another, imposing a specific strategy on the student that you make her adhere to (Amina, Art Education Lecturer).

Explicit instructions tended to be a favourite style among students, according to Anisa, who reported that, Saudi students want explicit instruction, however, I prefer to mix between implicit and explicit. Shadia made the assertion that when deciding whether to use explicit or implicit instructions we should consider students' individual differences. As she explained, explicit instructions would be appropriate for students who already have the desire to learn. In contrast,

> We need to rely more on the implicit [methods] with those who do not have the desire to learn (Shadia, Kindergarten Lecturer).

- **Modelling**

The modelling strategy was also seen as a valuable metacognitive pedagogy by Nadia and Nawal. For instance, Nawal claimed that she sometimes applied it by,

> enacting a framework or way of thinking in front of students or introducing an example … Modelling is much better than just introducing information in the form of bullet points, [as] a student may memorise the information but then forget it (Nawal, Special Education Lecturer).

In contrast, Amina from Art Education argued that modelling of thinking might not be advisable in art, explaining that what you will say to the student, she will apply it without questioning. In her opinion, modelling would limit a student's ability to think and therefore potentially inhibit rather than promote MC/MS.

- **Strategic Planning**

Shadia acknowledged strategic planning as a recommended metacognitive pedagogy, as she explained,

> It is based on points of strengths and weakness and allows for chance, I mean, obstacles or challenges … I always tell [a student], you have these four inside you. There are points of strength, how can you use them? Inside you, you have points of weakness, how could you try to get rid of them, and replace them with strength? … There are people who study better visually, those who are called opticals. If you are an optical person, you see more and rely on what is in front of you. For example,

157

the PowerPoint, which is presented to you during the lecture or you rely on opening your book and looking at written lines. Use more senses, when you use more senses (more than one sense) in your study, you will get better results (Shadia, Kindergarten Lecturer).

Accordingly, strategically planning teaching methods to activate MC in keeping with students' individual differences could be productive.

- **Brainstorming**

Dalal believed that the use of brainstorming would make a great contribution to the development of students' MS, as it would activate their thinking. She contended that it was effective particularly in theoretical lectures as,

> there are lots of questions that would activate the student's mind even if she does not have a background regarding the topic (Dalal, Art Education Lecturer).

However, she was unable to provide examples. Similarly, Omaima suggested brainstorming as a metacognitive pedagogy, but did not provide a reason why she considered it helpful for enhancing MS. However, brainstorming is founded on the idea of activating thinking in the first place (Al-Khatib, 2012).

- **Reading**

Dalal from Art Education observed that reading would be a valuable metacognitive pedagogy. She reported that she, always encourages students to read, and says it is not necessary to only read about art, but to read generally. She believed that reading is very valuable, as it helps students obtain skills, and could be used to enhance MS.

- **KWL Strategy**

KWL (What we know - What we want to know - What we learned) strategy was considered by participants as a powerful metacognitive pedagogy for teaching MS. Omaima explained,

> First, the student determines what she already knows, then she writes down what she expects to know and, finally, what she has ultimately learned (Omaima, Kindergarten Lecturer).

The characteristics of this pedagogy, which includes self-questioning, may justify nominating of it. Such a pedagogy could put the teaching of MS into

practice in the lecture room and would get the students to realise the importance of these skills.

To conclude, all these pedagogies could create appropriate contexts for developing students' MC in general and MS, in particular. However, the findings showed that few lecturers were able to explain coherently how the application of these strategies would help the development of MC/MS. This also indicates lecturers' lack of knowledge of this subject matter.

Moreover, it seems that lecturer participants linked these pedagogies to thinking in general based on the active nature of these strategies, not based on actual knowledge of how to apply them in the context of teaching MC and MS. Furthermore, the responses of some lecturers revealed superficial knowledge about teaching strategies, which could be due to their lack of educational qualifications, as was the case with Art Education lecturers.

Regarding those who already were educationally qualified, this lack of knowledge of teaching strategies could be attributed to the way that they had been taught these methods, or the absence of detailed daily written teaching plans as it appeared from the lecturers' interviews. It also could be attributed to the greater focus on lecturing strategies that may lead to missing knowledge and skills related to the application of other, more active, teaching strategies.

4.3.3.2 Transfer of Planning and Evaluating Skills to Daily Life

Skills that are transferable from academic training to every-day life contexts were appreciated by Shadia and Anisa as providing significant opportunities for encouraging the growth of students' MS. Anisa, for example, said that she encouraged students to transfer planning and evaluating skills to their daily lives. She said,

> I say to students as you will evaluate the children, evaluate yourself every week … I say to my student could you leave your home in the morning and start your day without planning what are you going to do? Can you walk randomly along a street [without knowing the way and yet reach your destination]? You, a student, leave your home and make a plan for a certain goal, [a destination]. You make a plan for one or two … or six places to visit. Subsequently, I will go to this store and not the other … What made me enter this store … This happened because you have a specific plan (Anisa, Kindergarten Lecturer).

This approach of identifying ways of transferring skills to daily use may well instil planning and evaluating skills. Nevertheless, merely by itself, without awareness of the need to apply these skills and encouraging students to think, reflect, and think about thinking, it will not necessarily turn the skills into metacognitive ones. In the same vein, Omaima, from the same department observed that university students lack the ability to transfer knowledge and skills they taught from one situation to another.

4.3.3.3 Metacognition: General vs. Domain-Specificity

One of the interesting findings that came forth from the data is the view that MC might not be applicable to, or the goal of, different fields or subjects. Afaf, from Special Education, for example, believed that MC might not be appropriate for subjects that rely on memorising, as these do not require thinking or understanding. Manar made a similar assumption, explaining,

> the nature of one course may impose metacognition on us, another course might not because its nature is very straightforward, so it differs. (Manar, Special Education Lecturer).

Other lecturers went further and identified the most appropriate subjects for teaching metacognition, including Special Teaching Methods, and Cognitive Development. Amorah from Art Education believed that MS should be taught by specialists in the field of curriculum design and teaching methods. Amina from the same department suggested MS possibly exist in courses like Teaching and Pedagogy/Teaching Methods. In this regard, educational courses were consistently identified as they usually involve the development of a teacher's ability to plan, monitor, and evaluate. Regarding the Cognitive Development module, it appeared that it was nominated based on its involvement of cognitive processes which comprise part of MC.

4.3.3.4 Lecturers' Questions in the Classroom and their Effectiveness in the Development of Metacognition

This section reports the type of lecturers' questions in the classroom that were evident from lecturers' interviews, such as structuring, clarifying, factual, inference, open, application, prompting, and divergent questions. The subsection further reports on how lecturers responded to students' answers and the effects these might have on the development of students' MC.

160

- **Structuring Questions**

Noria, Manar, and Amina stated that they used structuring questions after finishing the lecture such as "Is there anything you don't understand" or "Is there something unclear?" Such questions aim at monitoring whether the information had been delivered. However, Manar made the assertion that these types of questions are worthless, claiming,

> The question that is asked is 'Do you understand?' The usual answer will be, 'Yes we understand', but not everyone has understood (Manar, Special Education Lecturer).

- **Clarifying Questions**

Clarifying questions were identified as example of lecturers' questions in the lecture room. Manar, Nadia, and Noria acknowledged that they asked this type of question. For example, Nadia reported,

> I focus on specific headings and ask for their meanings. Also, I request the student to give examples ... I feel that this process is more suitable than the spoon feeding one (Nadia, Art Education Lecturer).

Such probing questions is likely to extend students' contribution beyond the first response and would therefore activate metacognition.

- **Factual Questions**

According to Omaima, questions that require students to recall previous factual information were often put. She reported that she might

> present a video talking about a certain learning difficulty and then ask what learning difficulty this is? The students have to recognise it through my explanation in previous lectures. For example, last week I spoke about a certain learning difficulty, this week I ask the students to tell me its indicators (Omaima, Kindergarten Lecturer).

- **Inference Questions**

Omaima and Manar highlighted inference questions as a type they asked in the lecture rooms. For instance, Omaima stated that she applied inference questions in the deductive form to activate students' thinking. She gave the following example:

A child in third grade has an average score in all subjects. But it has been noticed that he has a lot of spelling, linguistic, and grammatical mistakes. He also has a lack of coordination and organisation when writing the letters, words, and in staying on lines. He always forgets about punctuation marks. He has no physical disabilities, neurological or psychological disorders. If you knew his IQ is 90, can you identify the difficulty he has? Mention the methods used to treat this difficulty? (Omaima, Kindergarten Lecturer).

Such a question requires students to infer the answer from the available data, and could help engage their thinking skills.

- **Open Questions**

Afaf and Nawal pointed to open questions as a preferable style of questioning. For example, Afaf gave an example of this question:

If I ask a student about a child whose parents took him for diagnosis and the doctor says he has congenital problems that caused speech problems that has resulted in speech disorder. But if the diagnosis found that he does not have congenital causes, what might the reason be? I ask her this question. She would say as he does not have congenital problem … and I depended on the medical report. After this the student would say because the problem was not congenital it is clearly a psychological problem and what is the cause of this problem (Afaf, Special Education Lecturer).

She explained that she usually focussed on open-ended questions as this would enhance a student's ability to link pieces of information.

- **Application Questions**

Omaima and Anisa mentioned application questions as a type of question asked in the lecture room. Anisa, for instance, presented the following example,

I might ask questions, such as, 'As a kindergarten teacher, how would you deal with the children in this scenario …? How would you teach this concept to them? (Anisa, Kindergarten Lecturer).

- **Prompting Questions**

Nadia, Dalal, Manar, and Omima reported that they might engage students in a discussion through questions, such as, 'Why did you design or choose this item?', 'Why did this happen?', 'On what basis do you put forward this answer?'

Prompting questions would engage a student in MC. However, not all prompting questions could be classified as metacognitive questions, because the underlying intention of some of them may have different purposes. For example, the lecturer could ask such questions because she wants to investigate or understand what happened, or who did this work rather than engaging a student in a metacognitive process. Amina's response was evidence of this, she said:

> When the student brings the work, you might ask her: how have you achieved this technique. Of course, you ask and see if the student does the work by herself or someone else did it for her, and she only presents it (Amina, Art Education Lecturer).

This shows that not all prompting questions could be classified as inherently metacognitive questions.

- **Divergent Questions**

Nawal and Shadia pointed out divergent questions as an example of questions that they asked in the lecture rooms. For example Shadia, Kindergarten lecturer, stated that when she evaluated a student's performance during the micro-teaching, she might ask, "What do you think would happen if you do it this way?" This type of question that opens space for exploration of possibilities is likely to encourage students' thinking and lead to MC.

- **Lecturers' Responses to Incorrect Answers**

Findings emerged from lecturers' interviews that showed different approaches regarding correcting students' answers, including providing the correct answer, guiding them to the correct answer or using a prompting question, as discussed above. For example, Nihad from Special Education stated she indicates that

this answer is incorrect without demotivating the student, and then she would answer the question. Manar likes to infer with students, thus, if they could not answer she asks further questions, starting from easy to difficult, until the student was able to reach the correct answer. She provided the following example:

> Currently we have hearing impaired, for example. It has been always said that they are aggressive. Why they are aggressive? The students said, for example, that they are aggressive because society rejects them, or some other reasons. All these answers are correct, okay, but it is not the answer that I want, or let us say a specific thing about this particular category that made us say they're aggressive. We start asking other questions: what do they use to communicate? They say, for example, sign language. I say, okay, and ask what is the sign language they use. Students might say, the use of hand and finger movements. Okay, do you expect that when another person uses the movement of the hand and fingers while talking, this helps me to understand and interact with them? He uses his hands as a regular thing and not an attempt to prove that his point of view is the most powerful, or impose his opinion. By using this technique, I try to deliver the information to students. I let them infer (Manar, Special Education Lecturer).

It can be noted that some of these types of questions such as inference, open questions, application, prompting, and divergent questions could provide a path to activate students' thinking and thinking about thinking if it were well-planned with consideration to develop students' metacognition.

4.3.4 Lecturers' Perceptions of the Potential Challenges Influencing the Development of Metacognition/Metacognitive Skills

This section reports the potential challenges that limit the fostering of MC in HE in KSA. Examples include educational norms/systems, the University, lecturers, students, curriculum, and time.

4.3.4.1 Educational System: Pedagogies and Exams Style

The first criticism from lecturer participants attacks the educational norms in KSA. However, they expressed this belief with some caution. They made a comparison between the education system in KSA, some between their countries of origin, and some with western education. This comparison involved

addressing several topics, such as rote learning methods, the student as a passive learner, and types of exams. Amina and Dalal criticised the overused of rote teaching methods. Amina, for example, referred firstly to a Saudi educational background that depends on initiation, memorising, and didactic methods. She also pointed to the difficulty of changing this at the university level as students have got used to being taught in this way for 12 years, and thus, rote learning has been entrenched as a common habit. She argued:

> There is a problem here … If I give them [students] information on points A, B, and C they will return them to me in the same pattern as A, B, and C. If I change the order, then problems might occur (Amima, Art Education Lecturer).

This suggests that most Saudi students are likely to activate only the lowest cognitive skill, that of memorising what they are required to learn. Amina explained that traditional learning methods are not common in Tunisia's educational system that encourages independent learning.

From her point of view, rote learning and a teaching style that emphasises the teacher's role as knowledge-giver and ignores the student's role as active participant is a significant factor that could hinder the development of MC in KSA. Noria also emphasised the ignorance and passiveness of the student's role. The interview excerpt below indicates her point of view:

> We have a system in Egypt that when we attend a lecture room, there is nothing like where a student only listens to the lecturer, I mean a lecturer speaks, and you only keep silent. No. Every time the lecturer requires a student to present a topic and discuss it in the lecture room. Of course, this strengthens us, because everyone listens, discusses, speaks and plays a role in preparing and giving a lecture (Noria, Kindergarten Lecturer).

Further criticism was in relation to the form of exams as reported by Omaima, Amina, and Nihad. Omaima from Kindergarten for example criticised the nature of exam questions. She argued that the exam questions are closed-ended in nature, such as multiple choice. Omaima possibly meant that these types of question greatly depend on memorisation and recall, and thus would not activate students' thinking. Amina expressed a similar concern when she said, in contrast to KSA,

in Tunisia we do not give questions for direct and prepared answers. Teaching in Tunisia encourages the students to express their knowledge by using their own words (Amina, Art Education Lecturer).

Likewise, Nihad, a Saudi lecturer, argued that she did not favour the current style of exam questions for two reasons. They reflect the lecturer's character rather than the student's; and they deprive a student of expressing her ideas using her own style.

Nevertheless, Nihad admitted that she used them and attributed this to the following reasons: large numbers of students, and her lack of ability in marking expressive or essay questions. She said:

> Now I will share with you something that you should take into consideration. I am a lecturer in Special Education, but I cannot write expressive or essay questions for the exams. Why? Because I cannot mark them in a way that will treat all students equally. One student may write his or her answer literally whereas another may express it a different way. So, how can I strike a balance between a personal style and a literal style? Therefore, I focus on objective questions (Nihad, Special Education Lecturer).

Nihad's lack of knowledge of preparing essay questions could also be attributed to how she was taught courses related to evaluation and assessment in her own pre-service teacher training in the COE from which she graduated.

Western education was a subject of appreciation by lecturers Dalal, Shadia, and Nihad in terms of its approaches and learning outcomes. Dalal, for example, stated:

> The American University in Egypt produces a very excellent individual. They focus on one area of specialisation, but they build a character. It is very important to build a character, then they can work in any position. They can work in public relations, sales or anything, even though they are an engineer (Dalal, Art Education Lecturer).

Nihad differentiated between thinking styles in Arabic and Western cultures, opining that Arabic society limits things to theory and overlooks practical application. This culture of content knowledge transmission and emphasis on theory without teaching skills or putting things into practice represents a considerable barrier to promoting MC and MS in HE in KSA.

4.3.4.2 The University as a Challenge

The University itself emerges as a factor that may discourage the application or development of MC. Lecturer responses revolved around the academic and administrative aspects, and the learning environment at the University, for example the absence of MC in the University/College guidelines, the University's centralised system, focus given to administrative aspects, and the lack of an interactive learning environment.

Firstly, some responses pointed to the absence of MS, whilst others suggested they were dealt with in an implicit way or limited to specific subject areas, rather than promoted generally as valuable. Manar, Nadia and Noria pointed out that the university did not emphasise MC. Nadia reported the University vision in the guidelines was very vague:

> These words ['developing MS'] are not written explicitly in the University guidelines, but these should be the university's objective, that a student becomes responsible for their learning, and that the teacher's role is to guide and prompt. But this is not applied in a correct way (Nadia, Art Education Lecturer).

Furthermore, they claimed that they have not been explicitly asked or required to teach MC by the university or the department or to provide evidence of MC in the course report requested by the National Commission for Academic Accreditation and Assessment (NCAAA) at the end of each semester.

Several other lecturers claimed that MC or MS were present in the university guidelines to a greater or lesser degree. Omaima and Nawal made a comment that MC exists in theory only. Nawal, for example, argued,

> In theory, yes, it exists. The goals always include developing skills. But they are not applied. There are no strategies for applying them. I do not know the things that would help me apply them (Nawal, Special Education Lecturer).

Noria, Shadia, and Anisa touched on this point with respect to the Kindergarten department. They stated it is supposed that the vision, message, and goals of Kindergarten say that a student has to comprehend the idea of metacognition. Afaf from Special Education likewise said, "It only seems natural that it is a general goal" but admitted she had not seen it explicitly in the guidelines. Some

lecturers' responses were therefore built on 'what should be', rather than actual knowledge of what already existed.

The findings further showed that some educators may miss the importance of being knowledgeable about the goals and vision of the institution that they work in, if its goals are to be achieved. For example, Dalal from Art Education stated, that she has not read the University's vision, and that she works with her own.

Dalal's statement could be true at the departments level as well. It seems that each department has its agenda, perception, and objectives. For example, during my interaction with the Arts Education lecturers, I found that their prime target was to create artists rather than art teachers. Evidence of this can been seen in the following interview with Dalal:

> In our department we have discussed this matter. We should not limit a student studying an Art Education major to only being a teacher. I might want her to be an artist. If we assume that a student cannot get a teacher job, then she can open a graphic store or be a decorations designer (Dalal, Art Education Lecturer).

While, the Kindergarten department were focusing on graduating kindergarten teachers, which matches the college target, the Arts Education department had deviated to training artists, rather than art teachers. Regardless, intensive scrutiny of the University guidelines showed that MC did not feature as a priority or part of the University's vision, being only covered in a vague and very brief way.

Secondly, the University's systems were suggested as an obstacle to the promotion of MC. For example, Shadia described it as a strict system elaborating that

> I see that the system is too strict, a system that you cannot deviate from whether right or left. This kills creativity and blocks any attempts to promote methods similar to the research idea [Metacognition] (Shadia, Kindergarten Lecturer).

Dalal as well judged the University system for being more focus on administrative aspects. She said:

> Here, I have a problem. You can say that here particularly at the University, the administrative aspects are dominating over paying attention towards a student. The whole attention is about the

administrative things, your administrative work, and quality etc. … We can say the factor that hinders the promoting of MS is that lecturers are not strongly focusing on the student (Dalal, Art Education Lecturer).

This means that, due to administrative obligations, lecturers may be unable to give time to developing MS in their students.

Thirdly, the learning environment such as lecture rooms, were a subject of criticism by lecturers Omaima and Afaf. For example, Afaf claimed that,

I want to give them [students] learning by playing or cooperative learning or group learning opportunities, but I do not have a suitable learning environment for that … We have one or two seminar rooms, we have labs in the Special Education department, but we have been unable to use them for two years. We need chairs that can move so we can create a group of 5 students who I assign to work together, etc (Afaf, Special Education Lecturer).

Both lecturers highlighted a very important point: that lecture rooms should be designed and fitted with facilities that are designed for applying active learning methods and creating an interactive learning environment.

4.3.4.3 Lecturers as a Challenge

An interesting finding that emerged was that lecturers themselves might discourage the development and application of MS. Lecturers' teaching style, lack of knowledge of MC, lecturers' interests and beliefs, and expectation about a university students constituted the main evidence corroborating this claim. For example, Noria from Kindergarten and Amina from Art Education blamed lecturers for being focused on one teaching style that depends on giving lots of information; and may not progress the student to a desired stage of thinking or planning. Nihad from Special Education added a lecturer may choose a teaching method based on her preference without considering the nature of the subject, the students' characteristics or their individual differences.

The evidence suggests that the lecturing method was a common teaching strategy in the university, and rote teaching methods would be of no great value to the students, as this would limit the promotion of MC or any type of thinking.

Afaf, Amina and Manar highlighted lecturers' lack of knowledge of MC as an obstacle. Manar, for example stated,

> The capabilities of the lecturer him or herself, I mean, I understand the subject/strategies in a correct way, and I can apply it. However, I cannot implement MC if I do not understand it or do not have the experience of a full grounding in it (Manar, Special Education Lecturer).

Nawal, from Special Education, observed that lecturers differ in their beliefs and interests, and that a lecturer's interests and beliefs will play role regarding their application of MC. For example, if lecturers have no interest in it and cannot see its benefits, they may resist it themselves and neglect the development of it in their students.

Lecturers' expectations about university students may also have an impact on the promotion of MC. Amina said,

> I suppose that the student reaches the university stage and has a specific level of things that she has acquired, whether in language, manner, or expression and speaking. I am not responsible for this (Amina, Art Education Lecturer).

Perhaps she meant that there are basic skills that a student should have before entering university and, thus, her responsibility was to help students acquire artistic knowledge rather than transferable skills. At another point in the interview, Amina expressed the belief that the students do not have MS because they have not passed this stage or try these skills. In contrast, Nadia argued,

> I think the students have these skills, but do not use them. A student knows that there is a thing called planning and goals identification, but they are not applying them (Nadia, Art Education Lecturer).

Lecturers' teaching styles, knowledge of MC, interest and opinions about MC, as well as expectations of students may all limit or enhance the promotion of MC in HE in KSA.

4.3.4.4 University Student as an Obstacle

Evidence from interviews showed that students might discourage the development of MC. Students' large numbers, educational and family background, motivation, and academic level were reported as factors informing this point of views.

For Afaf, Nawal, Nihad, Manar, Amora, and Anisa, students' large numbers could discourage the application of MC, as lecturers may not have time to focus on these skills or teach them for students individually. Evidence of this appeared for example in Nawal's response,

> Given the students' large numbers, it is impossible to focus on 70 students in two hours (Nawal, Special Education Lecturer).

Manar from Special Education echoed the same point, and suggested 25-30 students per class to be able to apply and promote MS.

Students' educational backgrounds were reported by Noria, Omaima and Amina as a barrier that may affect the growth of MC. That is, students themselves may resist MC because they are used to rote-learning methods and memorisation. Omaima confirmed this, saying:

> I asked the students: 'How did you study the modules in high school?' They answered: If we did not understand a certain part, the teacher would say memorise it as it is in order for you to be able to write it correctly in the exam (Omima, Kindergarten Lecturer).

Another problem relating to the educational background, is students' focus on getting high marks. Students appreciate how many marks they get in a module, rather than actual benefits from skills they can learn. Omaima, Dalal, Amina, and Nihad highlighted this issue. Dalal, for example, said:

> You have a problem here [in KSA] where the student wants to reach the stage of perfection. There are students who, yes, work, but they want to get full marks for anything they do, even if their work does not deserve it … The student is memorising, because of the final result. What is in the middle [the learning process] is not important [to the student] (Dalal, Art Education Lecturer).

This shows students may not bother with MC and MS unless it was clearly linked to their marks/results.

Omaima from Kindergarten Department attributed students' interests in acquiring high scores to raise their opportunities to get a job as there is lack of employment chances in KSA. Thus, some students are keen on getting high grades to be able to have better careers, while other gains, such as thinking skills, self-awareness, and related skills seem less important for them.

Nawal believed that the surrounding social environment, particularly the family could have an impact on the developing of students' MC. She said,

> some families may develop skills, such as planning, with its children, while other families may not care about developing these skills (Nawal, Special Education Lecturer).

Under Islam, parents' responsibility to look after their children and bring them up is an obligation. However, some parents have misunderstood this matter, and bring their children up to be fully dependent upon them and, therefore, they grow up with a lack of different abilities and skills, in particular, thinking skills.

Another significant factor that may limit the promotion of MC is students' lack of motivation. Shadia argued that,

> If a student does not have the desire … if she does not set goals for herself, how could you help her to use metacognitive skills to achieve her goals? … You will meet students who already have the desire to learn, they are easy to teach and to learn with in a direct and easy way. You tell them, look we are now the same. Your goal is their goal too, so the two (teacher and students) are agreed that they want to know how to study, how to succeed and how to achieve their goals ...The problem is with the cohort that does not have the desire to learn and does not have the motivation. They say, 'You are not going to teach us how to learn, are you?' If you say this to them, 'I will teach you how to learn' directly, they will not accept it (Shadia, Kindergarten Lecturer).

Nadia from art education added students do not like to think or get tired and that they like lecturers to give them a final product. In essence, some students are used to being dependent and don't want to apply themselves.

Students' academic level was also identified as a factor that may hinder the promotion of MC. For example, Shadia suggested that MC was perhaps beneficial for the top students or those above average academic level, but not those with a low academic level. She further linked this with student motivation. She believed that a student with high ability had high motivation and, therefore, that MC,

> will be highly beneficial for [her], because she is familiar with it and has an awareness of its importance. Thus, she will accept it because she really needs it … [In contrast], the student who is indeed below the average will not feel its value because she is unaware, … she does not care about the learning process (Shadia, Kindergarten Lecturer).

Shadia furthermore highlighted important issues reported in the literature, such as the relationship between MC and motivation, and the relationship between MC and students' academic levels. She then asserted the necessity of making a student feel that they need to apply MC in order to motivate them to accept and apply MC.

4.3.4.5 Curriculum as a Challenge

The curriculum length, content, and nature were reported as factors that may create a challenge regarding the application or the development of MC. In this way, Omaima argued that the length of the curriculum does not leave space for the development of MS or thinking as there are too many objectives and content. She offered an example to explain her claim:

> On the course Creativity Development, to find some time to speak about problem- solving and brainstorming methods, I had to cover a large amount of information in one lecture to spare time to speak about problem-solving and brainstorming (Omaima, Kindergarten Lecturer).

Nadia confirmed this point and explained that sometimes, the curriculum descriptions do not fit with the lecturer goals; they might be less than what the lecturer wants to achieve. She added,

> In the description, there are things that might not be important or may even be wrong and consume time and you are not allowed to change more than 20-25% (Nadia, Art Education Lecturer).

The curriculum nature was also reported as a potential limitation to the fostering of MC and MS. Amorah from Art Education argued MS may not suit all specialised courses. She gave examples such as the Interior Design course, where MS may be relevant and helpful only in some areas of the module. Lecturers Afaf and Manar made similar assertions that MC might not appropriate for courses that depend on memorisation (see section 4.3.4.3). Shadia touched a similar point, assuming that the nature of the course may control the type of questions asked. She explained, for example,

> Prompting questions that are considered helpful in encouraging metacognition could be applied with items that involve understanding and specific thinking levels, but might not be appropriate with some parts [that] are related to retaining and memorising. Hence, it is difficult to ask

[a student] how she approached these answers, because she could just know them by heart and directly recall them to you (Shadia, Kindergarten Lecturer).

4.3.4.6 Time as a Challenge

Limited lecture time was viewed as a factor that may hinder the promotion of MC and it was linked to students' large numbers in Anisa, Nawal and Amorah's responses. For example, Anisa reported,

> The students' numbers and the limited time for the course of Scientific and Mathematical Concepts make me unable to engage the students comfortably in self-evaluation, or the evaluation of each other's work, or peer evaluation (Anisa, Kindergarten Lecturer).

Amina from Art Education as well addressed this point in relation to the total period of the university years, as three years might not be enough to cover the subjects of specialisation as well as further gains such as MC. Amorah also touched upon this matter, expressing how the limited time affects the means of teaching. She stated,

> I am not against self-learning, but sometimes the time given is too limited to allow for significant employment of self-learning (Amorah, Art Education Lecturer).

This could also be applied from her point of view to the application or teaching of MC/MS. These respondents perhaps suggest that the promoting and application of MC/MS will take time and attempting to integrate them or teaching them would make it difficult to cover all the subject content which seems the top priority of the lecturers.

To conclude, such challenges reported by lecturers might reduce the opportunities for the development of students' MC/MS. Therefore, identifying them is an essential step as this would shed light on how MC/MS could be incorporated in HE in KSA, from the point of view of those individuals who could contribute to the accomplishment of this objective. The responses have revealed that this task should be the responsibility of both the University generally and the lecturers specifically. Support for these findings is presented below in the following section.

4.3.5 The Benefits of Metacognition

Recognition of the benefits of MC and MS permeated the interviews. Several benefits were reported such as metacognitive benefits in an individual's life, developing critical thinking, self-awareness, self-confidence, self-improvement and self-evaluating, in addition to creating a responsible student and self-learner. Nawal, Anisa, and Amorah, for example, saw benefits in helping a student draw up metacognitive approaches for her life (social and career) and for solving specific problems. Anisa further associated MC to logical thinking, claiming that:

> A student will think logically about her life and study. She will think logically regarding her ability to deal with the subject that she will teach as a teacher (Anisa, Kindergarten Lecturer).

She also stated that MC would help a student to evaluate herself. Afaf agreed with this, claiming,

> A person can evaluate himself or herself and if there is something not right; they can identify a plan or programme that they can use (Afaf, Special Education Lecturer).

Afaf also cited improving critical thinking and self-confidence as a benefit of MC. She claimed that through metacognition, linking, investigating, following up and evaluating occur. Omaima, from Kindergarten reported similar benefits all of which shows a consensus from lecturer participants as to benefits of MC.

Self-awareness was another consistently identified advantage of MC. Manar, asserted that,

> When a person knows exactly what characterises her and whether she correctly understands a thing or not, I mean [a student] more awareness of herself, this already will benefit her more (Manar, Special Education Lecturer).

Dalal cited self-improvement as a metacognitive benefit. She purported that MS will make a student know how she can improve herself in the future. She explained that if a student,

> knows in the college how to improve herself, she will not stop doing so at the point when she graduates (Dalal, Art Education Lecturer).

Dalal believed that the benefits of MC are continuous and not limited to a specific stage or only academic work.

Nadia from Art Education suggested that promoting students' MC could perhaps lead to improvements in them taking responsibility for themselves. She argued, a student becomes responsible for his/her learning by themselves, while the teacher's role is complementary, as their role is to guide and prompt. This, too, reveals a range of benefits being recognised by the participants.

Although Amorah acknowledged the benefits of MC: she later demonstrated some uncertainty regarding the importance of metacognition. She raised the following question,

> How will employing metacognition on the course affect me? … Metacognition might not fit the course that I teach ... As a former student I studied and graduated without applying metacognition and I had no problem (Amorah, Art Education Lecturer).

Amorah's argument could lend support to the claim that educators' teaching style is influenced by their learning experiences and that they tend to teach in the same way that they learn.

Amina also has some concerns regarding the benefits of MC, which I noticed in her response to the question, "Is metacognition something that should be taken seriously by the Ministry of Education in KSA?" Her expression of uncertainty is given here as:

> If it has large benefits for the student, if it will help her by improving her way of thinking and improving her way of acquiring knowledge and how she can deal with it, then of course, I am for its employment. But if it does not have large benefits, we can do without it (Amina, Art Education Lecturer).

Both these lecturers (Amorah and Amina) were from the same department and do not have any educational qualifications. Thus, they might teach in the same way that they had been taught without applying theoretical frameworks and critical thinking, which may explain their concerns when it comes to new approaches.

Interestingly data emerged from Shadia, Omaima, and Anisa's interviews suggesting a relationship between MC and human development. They believe that through developing students' MC we are likely to increase students' awareness of human development. For example, Anisa made the assumption,

> I believe metacognitive skills are a human development, which our students should acquire ... We want to facilitate human development for the students … I wrote these words in my course evaluations, which I presented at the department meeting … I did not say a University development; I said human development. Thus, it would create a person who has durable responsibility, communication skills, is active, and who is able to handle themselves as well as handle teamwork (Anisa, Kindergarten Lecturer).

Similarly, Omaima stated,

> There is a need for human development. There is a need for graduates from the department to graduate with short and long-term goals in addition to self-awareness of the level of skills and abilities they possess (Omaima, Kindergarten Lecturer).

The link suggests there is a need for an increase in both MC and human development.

4.3.6 Lecturers' Perceptions of how Metacognition can be Incorporated into Higher Education in KSA

This section addresses lecturers' perspectives regarding incorporating MC into HE in KSA.

4.3.6.1 University/College/Department as the Base to Develop Metacognition

The lecturers stressed strongly that the University should play a key role regarding the development of MC. In doing so, they believe that the University needed to consider several procedures, including readdressing its vision, message, and goals; raising students' and lecturers' awareness of MC; reconsidering the incentives system and the evaluating standards of professional performance; modifying the curriculum and teaching strategies; and providing suitable and interactive learning and teaching environments.

Dalal, from Art Education, for example, suggested setting a new vision for the COE and departments, which considers the development of students' MC. Amina agreed with this point of view, and suggested:

> The dean of the college or the Head of Department cannot impose metacognition. We need to see the full council, that means it is supposed to be a full scientific council. This council carries out a full study of a sample of its lecturers, each one with his/her style. Because the strategy that you are talking about might, for example, match Special Education and does not match others, such as the Faculty of Medicine. Here, it is important that all of the scientific councils speak and the scientific council decide/identify [whether and how to incorporate MC]. Here I am not saying that it is the task of a responsible person or the task of an individual college, it is a full study [for the full council] and based on the actual study, [council should find out] what is the current situation, and what do we want to achieve together? (Amina, Art Education Lecturer).

Another significant suggestion emerging pertained to professional development. Most lecturers gave a clear message that they lacked knowledge and application of MC, and thus there is a need for courses, seminars, workshops, and micro-teaching sessions related to MC. For example, Shadia from Kindergarten made the point that MC "is very important for the teacher, not only the student". Noria added,

> The need to start with the university lecturer, because she is a role-model. [Thus,] conducting workshops or programmes would be a best procedure to raise lecturers' awareness of metacognition (Noria, Kindergarten Lecturer).

Dalal, Anisa, and Omaima added that these courses and workshops should cover theoretical and practical aspects in terms of how to place MC in the lecture room. They explained that some workshops cover only theoretical aspects, especially those related to teaching methods, which doesn't help them apply. For example, Amora suggested:

> Conducting workshops or courses relevant to the subject [MC] that includes explaining its concept, advantages, goals, benefit to students, how consistent it with courses and how it can be incorporated. Thus, if it is addressed widely … the outcome will be much better (Amorah, Art Education Lecturer).

This shows that explaining to lecturers what MC is and its value to them and their students, and helping them apply it in their courses, would collectively aid the uptake of it in HE in KSA.

Amina further highlighted the significance of conducting micro-teaching sessions and explained the context regarding how it could be applied:

> The university lecturer should be put in a [micro-teaching] situation where they deliver information … not in front of students, but with their colleagues. The colleagues can play the student role, and the lecturer plays the teacher role … but the lecturer has to understand metacognition, they have to have metacognition explained to them. They firstly must comprehend it and finally they have to see it is as a goal. If they know the goal and have knowledge about it as … a specific teaching strategy, they surely will apply it (Amina, Art Education Lecturer).

Nihad from Special Education stressed the necessity of inviting experts and professionals specialised in MC development to conduct these courses or workshops.

Regarding, the incentives system and the evaluating standards of professional performance, Nawal from Special Education suggested that it is necessary to increase faculty members' interests in MC, and to this end she believes that MS should be considered as "one of the standards for faculty members' evaluation". She further added that the University should provide incentives for lecturers. Lecturers who apply them would be treated differently to lecturers who did not. These incentives or evaluations could act as a strong motivation for lecturers to insert MC into their teaching.

Another suggestion that was given and seen as part of the University's responsibilities was related to the curriculum. In this regard, lecturers' responses indicated three approaches: Noria and Omaima from Kindergarten argued that MC should be integrated and taught *within courses*. For example, Omaima said, "metacognition has to be taken into account in any course description".

In contrast, others argued that MC should be taught as *a separate course* such as Shadia and Manar. For example, Manar stated:

> I think as a separate course, set it for the students as a course that involves theories and things such as they should be taught how they think, how do they study, how do they understand themselves … I mean this matter (metacognition) touches many aspects of the cognitive, psychological and personal (Manar, Special Education Lecturer).

Afaf and Anisa supported both arguments, saying that MC could be taught as a *separate course* and *within courses*. For example, Anisa opined,

> this matter (metacognition), it is necessary to be within the courses, and also as a separate course to put stress on it, I mean emphasis … [It] could be taught within i.e. the Cognitive Development module, also I could focus on it in three or four lectures to activate it with the students (Anisa, Kindergarten Lecturer).

Manar and Anisa further suggested teaching MC as a separate course in the preparatory year.

Interestingly, none of the lecturers knew that MC is taught to students within the 'Thinking Skills' course in the first term in the second academic year. This may indicate the isolationism at the departments level. Moreover, none of the lecturers demonstrated how MC could be delivered within courses, whether it would be taught directly as a topic, or embedded within the subjects' contents as Omaima asserted.

Establishing a suitable interactive learning and teaching environment was another factor that emerged which should be taken seriously, as this would help lecturers apply teaching strategies that could ease their developing MC. In this regard, Afaf and Omaima referred to the need for appropriate lecture rooms. Afaf from Special Education, for instance, contended that chairs should not be fixed to the ground, and that there should be a change to the layout of the lecture room layouts to make it possible to apply active teaching methods, such as cooperative learning.

4.3.6.2 Lecturers as Facilitator to Develop Students' Metacognition

Some lecturer participants showed awareness regarding their role in developing students' MC. For instance, Noria from Kindergarten argued, "The whole educational system depends on the lecturer's hand", saying it is up to the lecturer whether s/he will apply it or not. Accordingly, several approaches were reported that were considered as part of the lecturers' task to develop students' MC.

Firstly, Anisa, Nihad, and Omaima believed that MC should be part of classrooms activities. Anisa, for example, reported,

> when I activate it with the students in my lectures, a student will be aware of it and have an idea of it. Thus, this matter (metacognition) has to be within courses (Anisa, Kindergarten Lecturer).

Omaima from Kindergarten department also supported this argument, believing that faculty members should utilise MC in a way that would align with the curriculum objectives.

Secondly, Amina, Manar and Nihad believed that modifying and diversifying teaching methods would contribute to the development of MC. According to Manar, a Special Education lecturer, creating metacognitive learners is a crucial outcome and thus, developing MC may require reconsideration of teaching methods. Amina added,

> If we have to correct/modify things, then I suppose we need to modify teaching strategies that are used in primary, elementary, high schools, and higher education (Amina, Art Education Lecturer).

Thirdly, Anisa and Omaima argued it is necessary to diversify exam questions from the current multiple choice/shading ones to ones which should not restrict students to lower cognitive processes. Omaima added that a lecturer has to activate the six levels of cognitive abilities, including: knowledge, comprehension, application, analysis, synthesis and evaluation. She further provided some examples of these questions:

> An example of knowledge would be 'Define the term "learning difficulty" as the American Society has defined it?'. An example of comprehension would be 'Explain the higher frequency of learning difficulties with children younger than the school age, [compared with those] who have been accepted into the first year of primary school?'(Omaima, Kindergarten Lecturer).

Fourthly, Manar and Nihad perceived increasing students' motivation regarding metacognition as necessary for encouraging students to accept it. Manar, for example, claimed it was necessary to equip students and make them ready for knowing about their thinking or MC. She added:

> Firstly, I have to make sure that a student accepts this thing or has a particular passion to know more about it. If I felt a student is like this, then I can start developing it or directing students in approaches or

strategies that would help them in acquiring metacognition (Manar, Special Education Lecturer).

Nihad from Special Education suggested lecturers allocate some marks for MC, as students will be more interested in developing MC to gain marks.

Modifying and diversifying teaching and exam styles, and increasing students' motivation could all play a critical role in the development of the students as metacognitive learners.

Having presented findings emerging from lecturers' interviews, in the following section I present the findings generated from students' group interviews.

4.4 Group Interviews: Findings

Group interviews were conducted to address research questions numbers 3, 4, and 5 (see Table 3.1, chapter three). Table 4.5 summarises the main and sub themes emerged from the analysis of student participants' responses.

Table 4.5 Summary of the Findings from Students' Group Interviews

No	Main Themes	Sub-Themes	Examples
1	Students' definition of MC (section 4.4.1)		No knowledge of MC Misconception of MC
		Conscious vs. unconscious MC	
2	Students Perceptions of MS in the lecture rooms (section 4.4.2)		Planning: e.g., students' required to plan lesson/programme/project, Students provided with plan elements
			Monitoring: i.e. mostly not promoted Appeared in Art practical sessions
			Evaluating: i.e .lecturer evaluates students, classmate's evaluation, self-evaluating, and course evaluation. Open/guided evaluation with criteria
		The influence of lecturers' MC on students' MC	
		Factors influencing students' planning, monitoring & evaluating skills from outside the lecture rooms	Experience, Family background, Personal characteristics, Daily life, Confidence
		The presence & promotion of metacognitive knowledge tasks	I.e. linking between courses, linking the course to life, encouraging linking information; encouraging transferring or application of knowledge to real-life situations; and encouraging the link of ideas to examples.
3	Teaching strategies & questions in the lecture rooms (section 4.4.3)	Teaching strategies: effectiveness & limitations	Lecturing & dictation methods, discussion, reading, explanation, 'think, pair, and share', cooperative learning, practical application
		Lecturers' questions in the lecture rooms	Structuring, clarifying, factual, , inference, application, comparison, divergent, brainstorming questions.
4	Students' cognitive processes (section 4.4.4)		Comprehension Inference & conclusion Memorising Analysis Application Factors influencing applied cognitive process: i.e. nature of course, nature of exam, the lecturer Students experience & cognitive processes
5	Students' perceptions of the potential Limitations influencing the development of MC/MS (section 4.4.5)	University/department as a challenge	Strict system
		University lecturer as a challenge	Lack of interest, lack of knowledge of MC, teaching style, lack of awareness of students' backgrounds, lack of awareness of students' individual differences.
		Students as a challenge	Lack of acceptance or motivation, students' learning style, individual differences, large numbers & educational background
		Time as a challenge	Lectures limited time
6	Students' perspectives of the benefits of MC (section 4.4.6)		Success in life, academic, and fieldwork benefit: i.e. Self-awareness/understanding, regulatory skills, independent lifelong learners, saving time
7	Students' perceptions of how MC can be Incorporated into HE in KSA (section 4.4.7)	University/department role	Establishment of a community of practice, modifying the curriculum, raising awareness of MC, providing incentives to encourage students' MC.
		Lecturers' role	Motivating students, applying MC, diverse teaching methods e.g. role-modelling

4.4.1 Students' Definition of Metacognition

The data gathered in the pilot study indicated that students did study MC and, therefore, I became interested to find out how students define it, despite the current inquiry not originally intending to target this matter. Each student participant was asked, 'What do you know about metacognition?' The overwhelming number of them answered essentially, 'We remember the term and studied it in the 'Thinking Skills' module, but we do not remember specific information about it.'

Only Majd and Ebtisam presented a definition for the term. However, these showed a misconception of MC. Majd, for example, viewed MC as,

> Recognising what is between the lines, I mean it is not a clear thing and it differs from normal thinking (Majd, Art Education Student).

This suggests that MC is a type of thinking that could be described as a hidden and unusual thinking. It seems that Majd developed her definition based on the literal translation of the term; "*Ma Waraa Al-Maarifa*" (ما وراء المعرفة); [meta-cognition]. Ebtisam from Kindergarten defined MC as a strategy, then, she added, all the time, the lecturer was emphasising that metacognition is a strategy. She went on to say, the nature of the problem-solving method is similar to MS. As I discussed in Section 4.3.1.2 earlier in this chapter, whilst problem solving is considered a substantial outcome of MC, it does not represent the concept per se.

The student participants explained their lack of knowledge of MC firstly due to poor teaching methods that depended on lecturing and reading. Nesreen, for example, stated:

> The teaching of this module depended on a dictation method, whereby the lecturer opened the textbook, read, and required us to write. Thus, our concern was to write down everything she dictated to us, to memorise it, and write it in the exam (Nesreen, Kindergarten Student).

Students suggested that this method did not aid longer term memorisation or deeper appreciation of a subject.

Secondly, students Majd, Kholod, and Nashwa used the absence of practice as another justification for their lack of knowledge. For instance, Nashwa claimed,

> there were no practical activities and although the module contained very important and relevant information, the lecturer's teaching style did not make us appreciate that (Nashwa, Special Education Student).

On the basis of these responses, it seems fair to suggest that the rote teaching method was useless in the teaching of MC.

4.4.1.1 Conscious vs. Unconscious Metacognition

Interestingly, two student participants argued that MS might occur in unintended ways. Hanadi from Kindergarten expressed this thought, contending that she could apply the planning skill, for example, because she followed the steps of the planning skill automatically without being aware that she has this skill. Similarly, Kholod argued that,

> if a student, for example, learns the monitoring skill and practises it, and gets used to this style, she would do it subconsciously (Kholod, Art Education Student).

4.4.2 Students' Perceptions of Metacognitive Skills in the Lecture Rooms

One key purpose of this inquiry was to explore whether MS are being addressed or developed through lecturers' teaching practices and, if so, how? The findings concerning this inquiry are given below.

The data yielded by this inquiry showed convincing evidence that developing students' planning skills takes a central place in the Kindergarten department. Nermin, Hanadi, Ebtisam and Nisreen reported that they had come across planning skills on a number of specialisation modules as well as some general requirements modules. Nermin, stated that they, for example, had to plan a circle time activity in the Environmental Education course. Details of the plan elements are shown in the interview script below,

> The first thing is setting the objectives, the overall objective and the behavioural and kinaesthetic objectives, how to present the activity from introduction to evaluation, and this is almost it. Also, it is necessary to clearly state the strategy used, we used [for example] acting and story-

telling … [and also state] the materials and learning aids (Nermin, Kindergarten Student).

Nermin added that practice of planning skills facilitated its transferability across courses. She said,

We used to think that doing so [the planning activity] is difficult and requires too much effort. However, now we have become able to do similar activities in much less time in other courses …The experience we have got here can be easily transferred to other courses (Nermin, Kindergarten Student).

In Art Education, the available evidence suggests that the planning skill appeared mostly in the practical sessions. However, it might better be called a design instead of a plan. Evidence in support of this conclusion appears in Majd, Shatha, Abrar and Kholod's responses. They explained how they prepared a design. Firstly, a student needed to 'feed her eyes', i.e. through surfing the Internet, such as Google and Instagram, then she had to choose more than one idea and draw a sketch of her design. Next she had to consult the lecturer, prepare the tools she would need, and, finally, start the work. This does seem to be a design more than an authentic plan consistent planning skills as outlined above. Majd therefore made the point that on the specialisation courses, there is no focus on planning skills. This suggests that the theoretical courses in art education might not address the planning skill.

Shatha, Abrar and Kholod further noted that on the educational modules that they studied, such as the Teaching Strategies and the Special Teaching Methods in Art Education, they did not address how to prepare a plan, as the focus of these courses was on how to apply teaching methods rather than how to plan a lesson, for instance. On these grounds, it seems that the students believed that educational modules were supposed to develop their ability to plan, however, they found them insufficient regarding this matter. In contrast, Majd, from the same department, acknowledged that she was taught how to plan a lesson on the course Special Teaching Method in Art Education. Then, she was required to present this activity whether as group work or a written individual plan. Perhaps, the differences in responses can be attributed to the lecturer who taught the module. The educational modules were supposed to address teaching process skills and stages, such as planning, application, and finally evaluation, but were inconsistent in this.

A closer look at the data indicates that planning skills were being addressed in Special Education lecture rooms, on specialist modules, according to Kausar stating:

> We were required to make a teaching plan on the Arabic for Special Education course. In this module, we were asked to plan a full lesson in which I had to imagine myself explaining a lesson in a classroom. I had to comment on each student's participation, and also imagine that I have asked a question and write the answer that a student would say … I mean I would make it like a real teaching situation. If I was designing a full lesson, firstly I have to read the lesson to find out the difficulties that may face a student when she does the lesson. Then I would underline the difficult parts. I had to write things that I would do in the class. I had to allocate time for everything, like how I would use learning aids. I need to bear in mind the questions that the students may ask (Kausar, Special Education Student).

By contrast, Nashwa, Rawan, and Nihal from the same department stated that they had not noticed any development of planning skills in the teaching of specialisation modules.

However, Rawan and Nihal acknowledged practising the planning skill on general requirements modules, such as the Curriculum Design and Development module. For this, they had to select a topic, the targeted group, set goals, provide teaching activities, lists tools and give feedback on. Table 4.6 shows examples of modules involving planning activities from student interviews.

Table 4.6 Examples of Teaching General and Specialisation Modules Involving Planning Activities

Departments		
Kindergarten	**Special Education**	**Art Education**
Physical and Kinetic Education for Kindergarten Children The Design and Developing of Lessons Kindergarten Curricula Environmental Education The Use of Computers in Education Preparing Kindergarten Teacher Art Education for Kindergarten Children The Development of Scientific, Environmental, and Mathematical Concepts Child Culture Teaching Methods Kinesthetic Education	The Preparation of Educational Programmes for those with Hearing Disabilities. Arabic Language of Special Needs Behavioural Disorder Curricula Building and Development Teaching Strategies	Educational Research Special Teaching Methods Ceramics (Practical module) Calligraphy module

Data suggested that there was not much attention paid towards developing students' monitoring skills. From the Kindergarten department, Nermin, Nesreen, and Ebtisam, for example, agreed that developing monitoring skills was not taking place in the lectures rooms. For example, Nermin reported that in Kindergarten department, there is no focus on promoting self-monitoring or self-regulation. Ebtisam commented that lecturers might apply monitoring, but only to check student's comprehension rather than equip a skill:

> A lecturer might apply this skill in the lecture room to monitor her progress in the lecturer and she would repeatedly ask, 'Do you understand?' So, the concern here is whether we have understood a point or not: it is not about providing us with techniques to study her subject, or to learn how to monitor our thinking (Ebtisam, Kindergarten Student).

Kausur, Nashwa, and Nihal from Special Education put forward the claim that monitoring skills were not applied or promoted in their department's lecture rooms. Majd from Art Education, partly confirmed this perspective, arguing that lecturers do not provide students with instructions that promote the ability of monitoring their thinking. In contrast, Kholod, Shatha, and Abrar from the same department felt monitoring skills might be part of the practical sessions, but not

a part of the theoretical lectures. Kholod explained that this was because the focus in the latter was on transmitting information. Shatha, said,

> On the theoretical courses, we are not provided with such strategies or instructions. However, the situation differs in the practical sessions, because the teacher is with me in the same room: I consult her and she would help me. If the lecturer finds the work unsatisfying, she would give a direct instruction (Shatha, Art Education Student).

These findings suggest the application and enhancement of the monitoring skill appeared mostly in Art Education, but only during the practical sessions, where monitoring happened naturally. However, here it is about monitoring practical skills and performance, rather than monitoring thinking. Furthermore, the monitoring might be being applied only for the lecturer's benefit, as there was no evidence that it was being promoted for the students.

The findings showed that there was the presence even enhancement of evaluating skills. It further demonstrated most students' ability to evaluate due to having practised this skill several times in different courses. Multiple indications supported this outcome, such as: a lecturer evaluating or sharing the evaluating process; classmate's evaluation; self-evaluating; and course evaluation. This section covers the different evidence in this regard.

Hanadi and Nermin from Kindergarten stated that, without doubt, lecturers evaluating students or sharing the evaluating process with students occurred and had its advantages and provided a beneficial experience. Nermin explained,

> when the lecturers evaluate each group presentation, this helps the succeeding groups avoid the same mistakes and take advantage of the lecturer's evaluation (Nermin, Kindergarten Student).

Classmates' evaluation was reported as evidence of the presence and the development of students' evaluating skills. This appeared in Nermin, Ebtisam, Hanadi, Nashwa, Rawan, Shatha, Abrar and Nihal's responses. For instance, Nashwa stated,

> I experienced [classmate evaluation] after a group of students presents a topic, the lecturer asks the rest of students to evaluate the group presentation. Therefore, each student would evaluate (Nashwa, Special Education Student).

In this respect, Hanadi, and Nesreen from Kindergarten, and Kausar and Nashwa from Special Education were sensitive to evaluating classmates, for example feeling unqualified. Hanadi believed that students should not be required to evaluate classmates because this may cause embarrassment and conflict between them, and thus she avoided evaluating classmates and prefered that lecturers by do this.

With respect to self-evaluating, Abrar, Nermin, and Shatha outlined that they practised self-evaluating. For example, Nermin explained,

> On the Moral Development course, the lecturer said observe yourself during the week and see what positive and negative practices you have followed. If you do so, you will be practising self-evaluation (Nermin, Kindergarten Student).

In contrast, Ebtisam, Hanadi, and Majd reported that they had not been part of a self-evaluating process. They explained that they were in the first year of their majors and, thus, might not have undertaken those courses yet that would require them to evaluate their own work.

Kholod, an Art Education student, made the point that not all lecturers promote students' evaluating skills. She added only one lecturer gives them opportunities to evaluate or express their point of view. Kholod attributed this to the fact that the teaching for Art Education focused more on the artistic skills. She explained,

> I mean, it does not have a connection to thinking skills. It is mostly about the skills of the hands and eyes and has no relation to metacognition or any type of thinking (Kholod, Art Education Student).

Rawan and Nihal asserted that they had experienced evaluating processes on most courses, however, they claimed that they had mainly acquired the ability to evaluate from the General Requirements courses. The responses seem to suggest that departmental teaching (e.g. Special Education, Art Education) does not consistently promote students' ability to evaluate from some student participants' perspective.

Currently, evaluation of courses themselves is a significant requirement of the University in which the study was conducted. In each term, students are required to evaluate the courses that they studied in the term, on the University

website. It was apparently believed that student evaluation of the courses they studied would contribute to the improvement of the quality of curriculum, teaching strategies and other educational activities. In this respect, Ebtisam reported,

> We do an evaluation of the courses that we study … Most lecturers gave us an evaluating sheet and asked us to evaluate the course without writing our names or the student numbers, just to inform the lecturer … When I do my evaluation of the courses, I evaluate the lecturer's techniques, the methods of dealing with students, teaching method/style, the presence of the lecturer in office hours, and the importance of the course to me. For example, 'Did it develop my communication skills?', 'Am I satisfied with my exam scores?' (Ebtisam, Kindergarten Student).

Similarly, Hanadi from Kindergarten department said that she had gone through this course evaluation experience on the Health and Fitness course. She elaborated, they evaluated the module, and criticised it for too much information. The University considered the students' views and changed the course.

Students also acknowledge the value of practicing evaluation, such as avoiding subjectivity when evaluating. For example, Kholod stated,

> Perhaps the most significant benefit I obtained was objective evaluation … applying evaluation helped me to detach my evaluation from my personal artistic taste and become able to base it on the evaluation criteria. I mean, I have learned how to avoid subjectivity when I evaluate (Kholod, Art Education Student).

This shows some application of and fostering of evaluation skills.

Regarding the process of evaluation, or how to carry out an evaluation, there were two arguments. Some student participants suggested that the evaluation was guided by specific criteria identified in advance by the lecturer. Others revealed that there were no specific criteria to guide the evaluation process. Evidence of both arguments appears in the following responses.

Directed and guided evaluating appeared in Ebtisam's response, for example, who pointed out that she was required to carry out an evaluation based on explicit criteria. She said;

> For the course The Psychology of Play, the lecturer asked us to evaluate one of our classmates' presentations. I followed the criteria that the

lecturer gave us orally: the presentation should be attractive and interactive with students, … the presentation has to include a definition, pictures, a video, two sides of a point (advantages and disadvantages), etc. So, the student has to have all of that in her presentation. In the end, if the students did not do that, we evaluate based on the criteria provided. We evaluate … and identify strengths and weaknesses. We also evaluate according to how she took into consideration the age group being taught (Ebtisam, Kindergarten Student).

Similarly, Rawan from Special Education Department stated she had evaluated classmates' presentations based on specific criteria, however, it was a written evaluation. She explained they were provided with a sheet that included strengths and weaknesses, and were asked to write an evaluation, and then discussed it with the lecturer.

It can be noted that, in the theoretical courses, the evaluations mostly considered the presenter's voice, how she delivered the content, what tools and strategies she used, and what were the strengths and weaknesses. For the practical sessions of the Art Education courses, some other criteria regarding design principles are included, according to Shatha, Kholod, and Abrar. Shatha, for example, reported,

We carried out an evaluation based on the criteria that we studied for the Design Principles course such as balance, the colours, the design elements, and cleanness of the work (Shatha, Art Education Student).

Regarding conducting an open/undirected evaluation process, appeared on Hanadi, Nihal, Nesreen, and Ebtisam. Nihal reported that she had evaluated based on her personal perception. She explained that no clear criteria were given, and, thus, she evaluated classmates,

based on how they present the topic, the delivery of the idea, her voice, and how she presented the topic. I already had learned these criteria or items from another course and had applied them to this one (Nihal, Special Education Student).

Hanadi affirmed an important issue when she said,

The lecturer assumed that we know how to evaluate and, thus, she did not set evaluating criteria. (Hanadi, Kindergarten Student)

This suggests that lecturers' expectations of students' knowledge or skills might have an impact on the way that they teach or the knowledge they provide to students.

192

Nesreen added, the occasional absence of criteria for evaluation or suitable feedback can reduce the value of evaluation activities. For example, she said,

> I just had a discussion with one of our lecturers. She evaluated me and gave me less than the full score, but there were no evaluation items. I asked her, Why have I lost some marks? She could not answer and I did not know why she marked me down. She said, I feel your performance was not completely good. I said, Okay but what have I missed? She said will review it again. So, come to me later. I came again to her and she said she felt it was not complete but she did not explain further (Nesreen, Kindergarten Student).

Table 4.7 shows examples of modules utilising evaluating activities according to students' responses.

Table 4.7 Examples of Teaching Modules utilising Evaluating Activities

Departments		
Kindergarten	Special Education	Art Education
The Development of Scientific, Environmental, and Mathematical Concepts The Design and Developing of Lessons The Development of Moral and Social Concepts Environmental Education The Use of Computers in Education Preparing Kindergarten Teachers Entrance into Kindergarten Child Culture Teaching Methods Child Literature Psychology of Play	Educational Management Curricula Building and Development Applications in Computer Teaching Strategies	Calligraphy Module Drawing Studio Children's Drawings and their Stages.

Given the available evidence, it appears that planning, monitoring, and evaluating skills exist in all three departments, albeit inconsistently, and there is less of a focus on monitoring skills. Moreover, evidence suggests that these skills were addressed as regular thinking skills or practical skills rather than metacognitive ones. For example, in the evaluations, evaluation focuses on the personal aspects such as the presenter's voice, or on knowledge transmission, rather than thinking processes. Hanadi touched on this point claiming,

> some lecturers ask us, 'Do you think this is good?' And that's it. They do not ask the students about the basis for their evaluation (Hanadi, Kindergarten Student).

4.4.2.1 The Influence of Lecturers' Metacognition on Students' Metacognition

One of the interesting findings from the study is the relationship between lecturers' MC and students' MC. For example, Majd stated,

> if a teacher has metacognition, this would help her to know her students' thinking style and how to deal with their thinking processes. Accordingly, she knows how to teach them (Majd, Art Education Student).

Majd here highlighted a significant aspect of MC, that is knowing one's own self and others as learners, and linked to this to how it would affect their teaching.

4.4.2.2 Factors Influencing Students' Planning, Monitoring, and Evaluating Skills from Outside the Lecture Rooms

This section presents students' perceptions of factors additional to lecture room activities that contributed to their acquisition of planning, monitoring, and evaluating skills. Students' experience, family background, personal characteristics, daily life, and confidence were reported as examples of these factors. Evidence is presented in their responses below.

With regard to experience, Abrar, Kholod, Majd, and Shatha from Art Education and Nashwa from Special Education stated that they can plan, however, they obtained this skill through experience. Shatha explained:

> I feel that we, students, promote metacognition on our own, not through lecturers' guidance (Shatha, Art Education Student).

Kholod indicated family background as a key role in developing her ability to plan. She argued:

> I have acquired this skill since childhood because my mother taught me to write down everything I want to do, because otherwise I would forget. This writing turned into plans (Kholod, Art Education Student).

Nashwa highlighted another significant factor, namely personal characteristics, stating:

> I have the ability to make a plan, follow it, and if I do not apply the plan in the required way, I will make up for the deficiency (Nashwa, Special Education Student).

Kholod and Nihal both said they use planning and monitoring skills in daily life. Kholod explained,

> When I make a plan I write it as a schedule and follow it. I monitor and delete or mark the steps that I have finished. However, if I feel that the planning is not good or needs reorganisation, I will organise it again (Kholod, Art Education Student).

Interestingly, some of the available findings suggested a relation between planning and monitoring skills (Schraw, 1998), as the need for applying the latter seems to be a natural progression from the plan.

However, Kausur, Nesreen, and Rawan expressed uncertainty regarding their ability to plan and evaluate. Nesreen from Kindergarten, for example, expressed,

> I might need to improve my planning skill or I might have this skill but things that I have encountered have hindered me. Therefore, until now, I do not know whether I am good enough at planning or not (Nesreen, Kindergarten Student).

This indicates that some of the students lack the ability to transfer skills from one context to another. It also suggests that some students might not have awareness of their abilities and thus, they need support and encouragement to apply these skills.

Data demonstrated that student participants believe that there were several factors responsible for the development of these skills such as experience, family background, personal characteristics, daily life, and confidence. This shows that some students' responses reflect the belief that they did not receive specific instruction concerning the development of planning, monitoring, and evaluating skills.

4.4.2.3 The Presence and Promotion of Metacognitive Knowledge Tasks

Data showed that some key characteristics of metacognitive knowledge tasks take place in the lecture rooms, such as linking between courses; linking the course to life; encouraging students to link information; encouraging students to transfer or apply knowledge to real-life situations; and encouraging students to link ideas to examples.

Regarding this, Ebtisam stated that most lecturers either in specialism courses or general requirements courses encourage students to link ideas to examples

because doing so will make recalling the information much easier in the exam. Similarly, Rawan, Majd and Hanadi reported that some lecturers advise students to make links between information in order to benefit from it later i.e. in other courses. Hanadi provided the following narrative:

> For example, during the Kinetic Education course, the lecturer said, There are things that you would benefit from during the Development of Scientific, Environmental, and Mathematical Concepts course or during the Kindergarten course (Hanadi, Kindergarten Student).

Rawan as well claimed that some lecturers might draw links between modules. For example, she said a lecturer linked the Behavioural Disorders module to the Behaviours of Kindergarten Children module. Rawan and Nihal also claimed that few lecturers might link their subject content to every day life. Rawan supported this as follows:

> The lecturer on the Principles of Education course links the course to reality. For example, … she links any situation, event, story or anything in circulation among us. The professor links and says this connection would help you to memorise the information (Rawan, Special Education Student).

Nihal and Kausar outlined that some lecturers in the Special Education department make connections between their modules and the Field Training module. For example, Kausar stated:

> During the Educational Management course, the lecturer was making connections between that course and the Field Training course. For example, she connected the course with techniques to deal with students, how we should lead discussions and present topics confidently. We have benefited a lot from that lecturer, and she prepared us for Field Training. She would often say, 'You will benefit from this at that specific time' (Kausur, Special Education Student).

These findings showed elements of metacognitive knowledge tasks and transferable skills. However, it further indicated the absence metacognitive thinking, as lecturers seemed to use the language of memorisation for passing later modules, rather than skill acquisition for general use.

4.4.3 Teaching Strategies and Questions in the Lecture Rooms

This section covers student data about teaching strategies and questions used in the lecture rooms.

4.4.3.1 Teaching Strategies: Effectiveness and Limitations

Nermin, Hanadi, Nessren, Majd, Nashwa, Rawan, Kausar, and Kholod agreed that the lecturing method was the most common strategy used. For example, Nermin said,

> Most of the lecturers follow the lecturing style, and few lecturers use a variety of methods (Nermin, Kindergarten Student).

The evidence suggests that lecturing methods were the preferred strategies for most lecturers.

However, Hanadi, Kholod, Majd, and Nesreen expressed dissatisfaction with this, for example, Nesreen stated:

> I do not think their lectures are important when the only thing they do is to hold the book and read. I can read myself … It is really boring to listen to the lecturer only reading for about an hour and a half or an hour and forty-five minutes (Nesreen, Kindergarten Student).

Nermin from Kindergarten additionally found that losing attention and drifting off was another disadvantage of relying on the lecturing method. She explained that applying only the lecturing strategy put students in a passive position, as the teacher was the only one who spoke.

In contrast, Rawan from Special Education made the point that lecturing can be useful, but, this depends on the lecturer and how well-versed in the subject she is. Nashwa added that, whilst most lecturers focused on lecturing methods, they differ in their application of it. She explained,

> Some will lecture us, but by giving examples, asking questions, and stimulating inquiries (Nashwa, Special Education Student).

This suggests that questions could add value to lecturing as a teaching strategy.

Discussion was another example of teaching strategies that took place in the lecture rooms. Kholod, Abrar, and Majd from Art Education stated that some

197

lecturers applied the discussion method. They believe that the discussion method was more valuable than lecturing, because there was interaction when they spoke. However, Abrar admitted that few lecturers would use this strategy. Nashwa from Special Education and Nesreen from Kindergarten, as well agreed on the value of discussion. Nesreen argued, that discussion would lead to achieving the lecture's goals.

Nermin from Kindergarten department added that discussion increases students' ability to concentrate during the lecture, identifying the main point, and asking good questions. These responses suggest that discussion as a teaching strategy was seen as having great value in terms of activating students thinking, expanding their knowledge and developing questioning skills.

Kausur and Nesreen also made the point that there is such a thing as a useful discussion and a useless discussion. Kausar said,

> discussion is sometimes useless because [lecturers may] discuss things outside of the course frame (Kausur, Special Education Student).

This implies the usefulness of discussion depends upon its purpose and the application of it and if it was well planned or not.

Reading was reported as a teaching strategy used by lecturers. Kholod, Shatha and Abrar from Art Education as well as Nihal and Rawan from Special Education stated that some lecturers relied upon just reading the information from the PowerPoint slides or the textbook. Rawan, expressed the uselessness of this strategy claming that this did not assist her because it is the same as what is in the textbook. Kholod added reading does not help or attract our attention. In contrast, Abrar opined that

> I think this teaching method i.e. reading is not bad, but not going beyond it causes boredom and sleepiness in the students, … and I believe fully relying on this method can be counterproductive (Abrar, Art Education Student).

Nihal from Special Education argued applying this method differs from one lecturer to another. Some lecturers only read the lecture, while others may still read the lecture but will try to deliver information by linking it to real-life and by giving examples.

Shatha and Majd from Art Education reported explanation of the subject and giving examples as a teaching strategy that appeared in the lecture rooms. For example, Majd pointed out,

> It is possible that the lecturer gives examples during the lecture. For example, in the course of Special Teaching Methods in Art Education, the lecturer was giving us examples or a story on each point to help us to understand and to study the subject (Majd, Art Education Student).

'Think, pair, and share' was another example of teaching strategies applied rarely in the lecture rooms. Ebtisam from Kindergarten department stated that a few lecturers use this strategy, whereby the lecturer first gives a question to each group and each student thinks individually, then the student shares her answer with a colleague who is sitting beside her, then the group shares their answers and decides on one answer. Then each group presents their opinion, which is the last stage of sharing.

Majd from Art Education and Hanadi from Kindergarten department reported cooperative learning as a teaching strategy that was also rarely delivered in the lecture rooms. Hanadi asserted the effectiveness of cooperative learning as a strategy, but she reported that cooperative learning might have some limitations. She explained:

> Group work is not identical to individual work. In individual work, you should be competent in all of the aspects of the work. In contrast, in group work, you only need to be competent in your part of the project or plan while having awareness of what your group have done. So, you will not be as competent when it comes to the work of the rest of your group that you have not been involved in (Hanadi, Kindergarten Student).

In the Art Education practical application was identified as a teaching strategy that took place during practical sessions. Shatha and Abrar stated that some lecturers performed the work in front of the students, such as on the Drawing Studio, Ceramics, and Calligraphy courses. However, others did not. They would only give information, such as 'Do such and such, this and that', and so on. Kholod described the later approach as follow:

> The lecturer starts by telling us the projects that we are required to do, or the project idea, and then we start working on it. More often than not, we are not presented with examples of these projects to look at before we work on our projects … We start working on our projects, and then the

lecturer moves around in the lab room checking our work and guiding us if she notices any mistakes (Kholod, Art Education Student).

Kholod believed that this technique was appropriate, because it is difficult for the lecturer to teach the method of a project as each student has her own style and preferences. Kholod further added that in practical courses there is no specific strategy that would fit the whole course because this depends on the nature of the course and the students.

The lecturing method appeared as the most common teaching strategy, and was criticised as "boring" as it creates a passive learner lacking the ability to think.

4.4.3.2 Lecturers' Questions in the Lecture Rooms

Structuring, clarifying, factual, inference, application, comparison, divergent, brainstorming and thinking questions were reported by students as the types of questions in the lectures rooms.

Structuring questions were reported as the type most asked by the lecturers. Ebtisam and Hanadi from Kindergarten Department stated the lecturer would repeatedly ask, "Did you understand?" Hanadi, however, argued that these questions have no value:

> The question 'Did you understand or not?' relates to the lecturer more than the student; the lecturer only wants to know if the information is conveyed to the students. In other terms, regarding the question 'Did you understand or not?', I feel that the lecturer wants to make sure if she fulfilled her duty or not; I mean she wants to check if she has delivered the information or not (Hanadi, Kindergarten Student).

Ebtisam, Shatha, Kholod, Nashwa, Abrar and Hanadi highlighted clarifying questions as another type that were regularly asked in the lecture rooms. These questions usually would be in the form of asking students to give examples or to provide more explanation, such as, 'Give me an example?', 'Explain further?', and 'What does this mean?' They believed that these questions are good as they encourage students to clarify their understanding, break the boredom, and facilitate studying for the exam. Nashwa said:

The questions that require students to explain/elaborate are good because they add to the student. The student would know if she understood the course through her explanation or elaboration of information. The lecturer would give her feedback on the explanation provided by the student (Nashwa, Special Education Student).

Hanadi also made the point that these questions mostly appeared in the general requirements modules rather than the specialised ones.

Regarding factual questions, Nihal, Kausar and Rawan from Special Education reported that some lecturers ask about the previous lesson. Rawan believed such questions are not important as they do not stimulate because students can review content later and be able to answer it. In contrast, Nihal saw them as useful as they usually would have a connection to the exam questions.

However, Nesreen and Nermin from the Kindergarten department said lecturers' questions do not always reach the level of rote learning or retaining information. Nevertheless, they acknowledged it might happen sometimes, such as if the lecturer noticed a student was not paying attention, and so would ask her to repeat what she last said.

Inference questions were one of the most frequently asked. Nermin, for example, stated that,

The lecturer asked questions that check our reasoning, such as 'Why do you think this has happened?' or 'Why does the child use this style/method?' (Nermin, Kindergarten Student).

Nermin considered them valuable, because they increase students' attention. She further touched on a very important point relating to the time given to answering the questions. She argued that students were given short time that did not allow them to think and that the lecturer listens to five or six students, and then gives the correct answer.

Application questions were also being asked in the lecture rooms. Ebtisam provided the following example:

The lecturer in one subject asked us about the kindergarten's location and the most important features that have to be in a kindergarten's building, what requirements should be in the building to be an ideal kindergarten (Ebtisam, Kindergarten Student).

Kholod indicated comparison questions as a type put by lecturers in the lecture rooms. She outlined that sometimes the lecturer might ask questions that require students to make links between courses. For instance,

> Special Categories course is interrelated to the Introduction to Art Education … very interrelated courses to the extent that they are almost the same (Kholod, Art Education Student).

Lecturers would therefore ask students to think of comparisons from one course with a previously studied one.

Nashwa raised divergent questions as an example of questions that lecturers rarely ask in the lecture room. She supported her claim with the following example,

> On the Hearing Disability course or Visual Disability course (two courses taught by the same lecturer), the lecturer asked, 'If you were the Minister of Health, what would you do for those with hearing and visual disability? What programmes would you apply? (Nashwa, Special Education Student).

Ebtisam and Hanadi from Kindergarten mentioned brainstorming questions as a type of question rarely asked at the beginning of the lecture. However, they did not provide any examples. Nevertheless, Hanadi did say that these questions stimulate students, suggesting this type of question activates student thinking.

Nesreen, Ebtisam, Rawan, Nashwa and Kausar mentioned thinking questions as a type of question that few lecturers would ask in the lecture rooms. They explained that these questions usually were asked at the beginning of the lecture and were aimed at stimulating students' thinking, motivating them and capturing their attention. Nashwa said,

> I find the questions that are asked to stimulate thinking good, because they activate the students' thinking and help the lecturer capture their attention (Nashwa, Special Education Student).

One interesting finding to emerge was a contention made by Majd, a student majoring in Art Education, who said the lecturers do not ask questions on the specialisation courses and focus only on transmitting information. In contrast, Kholod from the same department reported that:

> In the theoretical lectures, there are questions … Some [lecturers] may ask for examples or ask superficial questions to move the lecture forward

and make sure the students won't sleep. However, in the practical sessions, questions may be accidental or unintended (Kholod, Art Education Student).

This shows a degree of inconsistency in how and why questions are used in lectures. Generally, it appears that if metacognition is occurring through them, it is unintentional.

4.4.4 Students' Cognitive Processes

Findings suggested comprehension was the most preferred process of the student participants. Supporting for this appears in the responses of Nihal, Nermin, Ebtisam, Hanadi, Nesreen, Kholod, Majd, Nashwa, Abrar, and Kausar. Nihal, Nashwa from Special Education and Majd from Art Education believe that understanding/comprehension of something would lead to memorising of it. Nashwa said,

> comprehension makes ideas stick in the brain and helps in recalling them as well, while memorising is limited to a period and then we forget what we memorised (Nashwa, Special Education Student).

Nihal from Special Education and Nermin from Kindergarten Department reported that creating links between information, resorting to examples, and breaking information down into smaller more accessible points are approaches that they applied to better understand/comprehend subject matter. Ebtisam and Hanadi also from Kindergarten added that, besides concentrating on clear understanding/comprehension, they also liked to analyse and draw inferences and make conclusions.

A variety of cognitive processes were therefore being evidenced among the students. Abrar contended that she would apply:

> Memorising, understanding/comprehension, analysis and application, … For example, there are some theoretical subjects that, firstly, students need to understand to be able to memorise them. Also, there are applied courses that depend on memorising and understanding to be able to apply them. I believe these processes overlap with each other and cannot be separated from each other (Abrar, Art Education Student).

Kholod, Abrar from Art Education, and Kausur from Special Education developed the idea that the applied cognitive process would depend on the nature of the courses, the nature of the exam, and the lecturer. Abrar stated,

> the type of course or the content of the course would identify the learning style or what mental process I would use (Abrar, Art Education Student).

Along similar lines, Kausar explained that some lecturers do not accept answers that are written based on a student's understanding/comprehension of the topic. They prefer that a student writes the answer as it is in the textbook. Thus, when students study, they rely on memorising over comprehension.

Interestingly, all the student participants reported that they come to know about the appropriate cognitive processes through their own experience. For example, Kholod asserted,

> Through my experience I found that understanding/comprehension suit me more. For example, in my school days, I found myself more comfortable with subjects that needed understanding/comprehension more than those that needed memorisation (Kholod, Art Education Student).

In contrast, Nihal admitted that through some teachers' guidance she became able to identify her cognitive abilities. She explained:

> There were some teachers from school who told us about this approach. They were saying, firstly understand the topic, read it more than once, memorise it, link it, and focus on examples (Nihal, Special Education Student).

4.4.5 Students' Perceptions of the Potential Limitations Influencing the Development of Metacognition/Metacognitive Skills

One of the tasks of this inquiry was to investigate potential factors that may limit the promotion of MC/MS in HE in KSA. In what follows, the student participants' responses regarding this matter are presented.

4.4.5.1 University/Department as a Challenge

One of the interesting findings to emerge from the student interviews was the belief that the University's strict system would hinder the promotion of MC. In this regard, Ebtisam argued,

> The faculty member may be controlled by the Head of the Department. I mean, the faculty member might be limited to a certain plan, which he or she has to do (Ebtisam, Kindergarten Student).

Tight, centralised control could thus prevent lecturers from incorporating MC, unless the University explicitly required it.

4.4.5.2 University Lecturer as a Challenge

Lecturers' lack of interest, lack of knowledge of metacognition, their teaching style, and their lack of awareness of students' diverse backgrounds and individual differences were all suggested as potential limitations regarding the inclusion of MC in HE.

With respect to lecturers' lack of interest, Nashwa argued,

> To get the student interested in MC, the lecturer has to have interest in MC first, because if she does not have interest in it, she will not promote it to the students (Nashwa, Special Education Student).

Abrar from Art Education and Nesreen from Kindergarten department also touched on this point, establishing a link between a lecturer's lack of interest in MC and their lack of knowledge of MC. Nesreen pointed out:

> The faculty member might not have metacognitive skills and, therefore, is not capable of explaining them to the students. It might even be that the faculty member considers metacognition unimportant (Nesreen, Kindergarten Student).

Lecturers' teaching styles were also believed to have negative or positive impacts regarding the promoting of MC. Nashwa from Special Education touched on the positive, saying if the lecturer's teaching style was interesting, this influences the students on many levels and in various ways, and then she could teach them metacognition. With respect to how lecturers' teaching styles might limit the development of MC, Rawan and Nihal from Special Education pointed out how lecturing and delivering information is the most important thing for some lecturers and thus, they do not focus on developing skills.

Nashwa remarked that lecturers' lack of awareness of the students' backgrounds as well as individual differences were a potential limitation in relation to the development of students' MC. She said:

It might be the unawareness of the faculty member of the learner's background or the cultural differences from one to another. I mean some students may need a little help to promote metacognition in them while others may need a lot of help, steps, and methods. I mean, there are individual differences among the students (Nashwa, Special Education Student).

4.4.5.3 Students as a Challenge

Interestingly, many of the student participants propounded the view that a student herself might discourage the enhancement of MC. Students' lack of acceptance or motivation, students' learning style, individual differences, large numbers in classes and educational background were presented as evidence of this contention.

Nesreen, Kholod, Majd, Rawan, and Abrar agreed that students' lack of acceptance of MC would influence its application and promotion. Different interpretations were made to support this view. For example, Kholod argued that students might not accept MC and she attributed this to personal characteristics and the manner of the student's learning approach. As she put it:

> Not all [students] have an open mind. Some of them are narrow-minded. I mean, whenever you try to explain to them or teach them a new thing, they will not learn it because their thinking stops at a certain point that they cannot pass. These types of students are always dependent. I mean, they depend on someone, such as a lecturer or their family or their colleagues, to tell them what to do. These students are not used to thinking or using their minds. They have dependent personalities (Kholod, Art Education Student).

Abrar from Art Education and Rawan from Special Education justified students' lack of interest stating students might not interact with the idea of metacognition because it is a new thing, and that they are not used to it. Abrar said it was not a normative part of the lecture room activities, she explained,

> most of the lecturers do not apply it and so the students would say: why do you want to change what we are used to (Abrar, Art Education Student).

This suggests a feedback loop between lecturers and students as barriers to the use of MC in HE in KSA.

Nermin from Kindergarten and Majd from Art Education developed the idea that students' lack of motivation had a negative impact on the development of students' metacognition. Both further believe that students' lack of motivation would have a negative impact on lecturers' interests and application of MC, as well as promoting students' MC. For example, Nermin suggested:

> It is possible that any professor gets negatively affected by the lack of motivation in students who just want to finish the university years and graduate. Some of those students, for example, have no interest regarding understanding themselves as learners, and they only want to get a university degree (Nermin, Kindergarten Student).

This is consistent with the argument that students' motivation and lecturers' motivation are interrelated obstacles to the use and promotion of MC in HE in KSA.

Nesreen and Hanadi from Kindergarten and Kholod from Art Education highlighted the influence of students' large numbers and individual differences on the development of MC. They believed that students differ from one another and, thus, it would be difficult for the lecturer to promote 'metacognition' to them all. They also established a connection between students' numbers, individual differences and the development of MC. They pointed out that due to large student numbers, a lecturer would often ignore individual differences and treat all students as the same. They added, a lecturer might be able to teach MC for the whole class in a general way, but not tailored to all the individuals. This finding suggests addressing MC with consideration of individual differences and student numbers would require prohibitive amounts of time.

Abrar and Majd from Art Education viewed students' educational backgrounds as a potential factor limiting students' sense of responsibilitiy that could reduce their openness to MC. Abrar stated,

> I also believe that students' educational backgrounds may prevent them from using metacognition … I find that the students who were educated in a system where the courses require self-reliance more than teacher-reliance are more capable than students who were not educated under the same system (Abrar, Art Education Student).

This suggests students who had been treated as passive learners are likely to face difficulties when trying to understand or apply MC, because they are not used to having an active role in the learning process.

4.4.5.4 Time as a Challenge

Limited lecture time consequently emerged as a related factor which could hinder lecturers' ability to apply or develop MC. Majd, Ebtisam, and Nermin's responses supported this perspective. Majd, for example, asserted that lectures' limited time might restrict the lecturer in teaching MC. Along similar lines, Nermin explained:

> There is a limited time for the lecture. The professor barely has time to present the content of the subject and explain the activities, and, therefore, they do not have time left to draw our attention to further skills (Nermin, Kindergarten Student).

4.4.6 Students' Perspectives of the Benefits of Metacognition

Through the students' group interviews several things were highlighted as the most beneficial outcomes of MC, including success in life, in academic studies, and in fieldwork, and raising a student's awareness of herself, and directing her. In this regard, Kholod, Shatha, Nermin, Nashwa, Rawan, Majd and Nihal agreed that metacognitive benefits would not be limited to academic study only, for their value extends to career and future life. Nermin, for example, stated, that metacognition

> will be useful in everything. For example, I will be able to apply planning and evaluation skills in my job or career, and thus, metacognitive skills would be beneficial for me after graduation as well as before that, with studying the courses (Nermin, Kindergarten Student).

Hanadi and Abrar provided an additional benefit claiming that MC would raise a student's awareness of herself as an independent lifelong learner. Abrar from Art Education believed that MC represents self-understanding, and it might give a student full understanding of the area of study, comprehension of the workplace or knowledge about future career, thus leading to student's success. Ebtisam, Kausar and Rawan made a similar assumption with an emphasis on the regulatory part of MC and the impact that this has on organising and

directing thoughts and learning and achieving goals. Ebtisam, for example, stated that MC is important:

> because anything done randomly is impossible to achieve. I mean the possibility of failure is big. On the contrary, if I planned what I want to do, how and when, I would know the suitable time, and what suits a certain situation and how I am going to do it. Therefore, metacognition is important not only for academic study but also in real life, I will be successful 95% of the time, because I will always be planning from the first to the final phase. Therefore, I will be ready to face difficulties and would have alternative plans. I set goals and I know how to achieve them and, in the end, I would evaluate the results (Ebtisam, Kindergarten Student).

Kholod and Nashwa highlighted saving the student time as a significant metacognitive benefit. Nashwa made the point that,

> It is preferable for a university student to have metacognition … If a student knows the best method for her, she will follow it and be creative in it and save time. In contrast, if a student does not know the appropriate method, she would try more than once until she reaches a desired result (Nashwa, Special Education Student).

The aforementioned responses suggested that MC represents an approach to life, involved such valuable skills as self-awareness, and regulatory skills.

4.4.7 Students' Perceptions of How Metacognition can be Incorporated into Higher Education in KSA

Students are at the centre of the educational process. Therefore, it is important to investigate their perspectives regarding how MC could be taught to them and be developed. This section outlines data about student participants' perceptions of how MC could be incorporated into HE in KSA. Students identified two main influential factors, namely the University, and the lecturers.

4.4.7.1 University/Department Role

Many of the student participants showed awareness regarding the University's role in launching a strong base to develop their MC. Several approaches were put forward that could contribute to this, including the establishment of a

community of practice, modifying the curriculum, and raising awareness of MC generally. Support for these perspectives appears in the following responses.

Nessren from Kindergarten and Abrar from Art Education saw establishing communities of practice as an effective approach for incorporating MC into HE. Nessren argued in favour of establishing the department as a community of practice. She put herself in the Head of the Department's shoes and described how this could be pursued:

> If I were in the position of the Head of the Department, firstly, I would have a meeting with the lecturers before the first lecture in the academic year and present this idea [metacognition] to them … I would tell the lecturers that I have a plan that I want to use with the students to achieve an important goal, that is the use of metacognition … Then I start to explain my plan: We want the students to know what metacognition is and how to use it, and this is your (the lecturers') role … If I am entitled to suggest to them what to do in the first lecture, I will make sure that all the lecturers start with an explanation of what the term 'metacognition' means … This would be our plan. Even if … metacognition is part of the 'Thinking Skills' course only, this does not matter. As a lecturer, I have to show the students that I can use it so they will follow my example and use it … The lecturers would introduce the students to the concept of metacognition and start implementing this concept with them in the first lecture. In the second lecture with a new lecturer the student will be introduced to this concept again (Nessren, Kindergarten Student).

She further elaborated that each week the department would have a meeting and discuss this experience and sharing experiences among lecturers would have value. This emphasises the role of communication between lecturers and a community of practice within the University working cooperatively towards promoting MC.

Abrar suggested the establishment of the lecture rooms as a community of practice. She believed that developing students' MC required interaction and cooperation between the lecturer and the students, and between students as well. She outlined that,

> if there is cooperation between both, the lecturers apply it and the students accept it and [then the] application of metacognition would succeed … responsibility is distributed between the student and the lecturer, but the lecturer has more responsibility. I mean, I suppose that the lecturer plays a large role in introducing me to and teaching me about metacognition (Abrar, Art Education Student).

Another significant suggestion that emerged from student interviews touched on the curricula and how to make them serve the development of MC. Regarding which, three proposals were made. One was that MC should be integrated within courses. This matter was raised from the responses' of Nermin and Hanadi from Kindergarten, and Kholod and Majd from Art Education.

The second suggestion was in favor of teaching MC as a separate course, as put forward by Nermin, Rawan, and Kholod. For instance, Rawan outlined:

> We studied it in the 'Thinking Skills' module, and it was just simple information on one page in the textbook. If it becomes a separate course, the student would absorb it more and apply it … [it should further] have a practical aspect besides the theoretical information (Rawan Special Education Student).

Kholod suggested modifying the 'Thinking Skills' course and adding a practical part to teach MC through this course. She argued,

> If it is all theoretical, without practice, the concept will not remain in your mind. If you ask us about the 'Thinking Skills' course, you would find that we forgot three-quarters of it. However, the situation would be different if we had to put it into practice (Kholod, Art Education Student).

Thirdly, Shatha, Abrar from Art Education, and Ebtisam from Kindergarten suggested the integration of MC within courses as well as teaching it as a separate module. For example, Ebtisam argued,

> metacognition, I think, should be taught as a separate course and be integrated into other courses at the same time, so that students can appreciate the value of metacognitive skills (Ebtisam, Kindergarten Student).

The University having the responsibility of raising lecturers' and students' awareness of MC was put forward by Nihal, Kausar, Rawan, Nashwa, Abrar, Shatha, Ebtisam, and Hanadi. They suggested running courses, seminars, and workshops to ensure the development of MC. For example, Nashwa indicated to the content of these workshops, saying,

> the University could … conduct courses/workshops or seminars about metacognition to make its concept, scope and its fields of application accessible to and understood by students. Accordingly, the student, as she knows herself, would know what she needs from it (Nashwa, Special Education Student).

Shatha, Abrar, Nashwa, Rawan, and Hanadi suggested that the workshops should be for both lecturers and students. Rawan, from Special Education, for example, explained, the courses/workshops should be for both the lecturers who delivers and the student who receives, because they are the most important individuals concerned. Abrar from Art Education added that these workshops should be presented by specialists in the field of MC to encourage students to attend them. Similarly, Hanadi from Kindergarten, Nashwa, and Rawan from from Special Education, argued in favor of inviting specialists on MC. Hanadi explained,

> I might not attend if the lecturer who presents is not specialised [in metacognition], even if she has some knowledge about it, because this would differ if the presenter is specialised in this area. The courses/workshops should be run by [specialists] … because if the presenter is a lecturer from the same department, I may not attend because I know her style (Hanadi, Kindergarten Student).

While the student participants argued in favour of conducting workshops, they also expressed some concern that these might not attract students to attend. For instance, Nermin from Kindergarten Department noted that most students would not attend courses/workshops, although they usually outside the times of the lectures. Hanadi, Ebtisam from the same department, and Shatha, and Kholod from Art Education voiced similar concerns and provided several reasons for lack of attendance, such as the workshop's presenter, the presentation's style, and inappropriate times. To this effect, Nashwa and Rawan from Special Education believed that the workshops or seminars would be better if they were conducted each year or each semester or more than one per semester. Nashwa from Special Education and Hanadi from Kindergarten further added that the university could provide certificate to encourage students to attend such workshops, as certificates may be useful after graduation. This suggests that external motivation might have impact on attracting students' interest.

4.4.7.2 University Lecturers' Role

Findings emerged from student interviews that strongly emphasised the key role that lecturers should play regarding the development of students' MC.

Motivating students, applying MC, and diversification of teaching methods such as being a role model for students were seen as aspects of the lecturers' responsibilities.

Raising students' awareness of the need to understand and apply MC was a significant factor believed to have a positive impact on students' developing it. Hanadi stated that a student should get to know herself, and that a lecturer should raise the students' awareness about this matter. She added:

> [A lecturer] might say to students, 'Each one has to know herself and what she does' …. For example, on the Teaching Strategies course, the lecturer informed us that she depends on sight, I mean she is visual. She said, 'Each student has her strength, each one of you has to understand herself and which sense or ability she uses. Also, she said, 'Each one has to promote her own strengths and use the strength that she has' … I mean, the lecturer would bring MC/MS to our attention (Hanadi, Kindergarten Student).

Abrar from Art Education believed that a lecturer would have to increase students' feeling of the need to acquire MC and, as a result, she would accept it and, for example, attend any events or activities related to MC, such as seminars and workshops. Motivating students and increasing their responsiveness to MC was therefore recommended. For example, Ebtisam from Kindergarten Department suggested, that a lecturer give extra marks to students to motivate them to attend workshops concerning MC.

With respect to the application of metacognition, Nihal and Rawan from Special Education argued that lecturers have to apply and activate MC/MS in the lecture room as much as possible. Nihal contended:

> Each lecturer has to apply it in their teaching courses … because then the student would know metacognition's steps and what she has to do [to practice it] … The student may not understand metacognition unless she has seen it in practice and understood its steps (Nihal, Special Education Student).

Hanadi and Ebtisam from Kindergarten supported this argument, however, they expressed the view that it is not necessary to focus on metacognition in each lecture, and that the lecturer could spare part of the lecture time to teach metacognition.

Student participants identified diversification of teaching methods as good practice. In this regard Majd said,

> It would be better if there is a variety of strategies used. I mean, it would be better to use a certain strategy in each lecture. This would break the routine and motivate the students (Majd, Art Education Student).

Student participants thus identified several metacognitive pedagogies that could contribute to the development of students' metacognitive skills such as practical application, discussion, questioning, explicit instruction, explanation, and role-modelling.

- **Practical Application**

Ebtisam, Nashwa, Kholod, Nermin, Nihal, Abrar and Shatha suggested practical application as a valuable metacognitive pedagogy for enhancing MS. They agreed that a lecturer could request the students to prepare a plan and then monitor and evaluate it. For example, Ebtisam explained:

> The planning stage incorporates setting goals, using techniques, planning steps and finding alternatives. In the monitoring stage, the student checks if her progress is going well or not. If you are in the middle of your plan, how much time have you consumed? Do you have time to go back to a previous step to improve it? … [The lecturer] uses broad terms to say that the monitoring and investigating skills follow the planning stage. As a result, the student has to make the link between the stages and find out what she has achieved or where she has got stuck and compare that to what she has committed herself to achieve. The student will then be able to self-monitor and evaluate herself (Ebtisam, Kindergarten Student).

This example indicated clearly how practical application would facilitate students' MS. It further emphasises the relation between MS and how they could inform each other.

- **Discussion**

Ebtisam identified discussion as an advisable metacognitive pedagogy for promoting the students' metacognitive ability. She suggested a perception of how to conduct this pedagogy:

> I could discuss a problem with students and ask them to come up with a topic, then to set a goal. When they give me the topic they chose, I ask,

What is the goal you want to achieve? What do you want to teach? Okay, now you know what you want to teach the children, what are the tools you could use? These tools will be according to the atmosphere and the age group in front of you. Okay, now we will start with the information itself: Is the child … able to absorb this information or does he or she need simpler information?' (Ebtisam, Kindergarten Student).

She explained that by doing so she would stimulate the students' thinking and make them imagine themselves going through an experience, then the students will listen actively and interactively, and students who have initially misunderstood will correct themselves, and students who are right will be reinforced.

- **Questions & Self-Questioning**

Ebtisam and Nesreen from Kindergarten and Nashwa from Special Education recommended questions and self-questioning as metacognitive pedagogies. They believe that applying questions, particularly those that encourage exploration of possibilities or self-questioning would foster the development of students' MS, i.e. monitoring and evaluating skills. For example, Nashwa suggested that the lecturer required students to plan a lesson, and then question them to:

> predict what might occur as a result. I mean, she would ask the student what approach would she follow? And what does she expect to happen as a result? And what would she need to do in response … [thus] this approach would make a student aware of mistakes … she has made during the planning stage (Nashwa, Special Education Student).

Self-questioning was also recommended. In this respect, Ebtisam asserted:

> I will put myself in the lecturer's shoes … and put the student in a real-life situation and ask her a question, or encourage her to ask herself questions [self-questioning] that would stimulate her thinking. Examples of good questions that the student can ask herself: 'When I took this on, what did I want to achieve? Have I achieved it or not? Let me self-evaluate my achievement against my goal.' If there is a set of criteria that I have and the student can use, then I will give the student these criteria. If not, then the student can come up with her own evaluation criteria and check if she has achieved her goals or not (Ebtisam, Kindergarten Student).

- **Explicit instruction**

215

Majd from Art Education and Rawan and Nihal from Special Education recommended explicit instruction concerning the development of MS, i.e. planning and monitoring skills. For instance, Rowan, outlined:

> I believe it will be much better if the faculty member gives students this skill in a direct/explicit way, teaches it to them, and applies it with them. I mean by 'teaching' and 'applying' the students would learn more and see the benefit of this skill (Rawan, Special Education Student).

- **Explanation**

Kausar from Special Education and Hanadi from Kindergarten put forward explanation as a valuable metacognitive pedagogy for the promotion of MS, i.e. evaluating skills. They stated, first of all, the lecturer should provide information about the evaluation, i.e. its definition, and application, then engage students in an evaluation process, whether within specific criteria or an open evaluation. Kausar emphasised the need to continuous practice to develop such skills. Hanadi added:

> A lecturer should explain the importance of evaluation and its benefits. For example, 'Would this evaluation lead to a development or a change?' The lecturer should place me in a situation and inform me what the outcomes of my evaluation of that situation are (Hanadi, Kindergarten Student).

- **Modeling**

Ebtisam from Kindergarten, Shath, Abrar, and Majd from Art Education, and Rawan and Nihal from Special Education highly recommended modelling as a metacognitive pedagogy. They suggested that lecturers role model using MS i.e. planning, monitoring, and evaluating. In this regard, Rawan argued:

> The lecturer should be a model for the student. I mean she should show me how things should be done. For example, she should be a role-model for me in the way she delivers her presentation, explains points and self-monitors herself (Rawan, Special Education Student).

Similarly, Ebtisam from Kindergarten claimed lecturers should be role-model for students. She explained, they should be metacognitive learners/teachers; and they should integrate MS in their normal lectures.

Majd provided a practical example of how lecturers could be role-models. She suggested:

the lecturer could start the lesson and say, 'This is the lesson's goals', then follow them in order and finish the lesson plan within the lecture time. She would also mention the teaching strategies that she is going to use. Consequently, the students' i.e. planning skills would be developed further (Majed, Art Education Student).

Drawing from above, several teaching strategies were recommended to as metacognitive pedagogies to develop students' MS such as, practical application, explicit instruction, and modelling. Furthermore, findings suggested the necessity of continuous application and practice of these skills to develop students as metacognitive learners.

To conclude, motivating students, applying MC in lecture rooms, and diversification of teaching methods such as role-modelling to students would play a critical role in the development of students' MC/MS.

4.5 Overview of Findings Emerged from the three Instruments

In this section, a summary of findings emerging from the observations, interviews, and group interviews is presented.

- The findings showed that both lecturers and students lacked knowledge of metacognition.

- Based on the classroom observation as well as the lecturers' and students' interviews, it emerged that planning skills were not practised by lecturers in their teaching in the lecture rooms, but these were promoted through some activities that were given to the students, such as requiring the students to prepare a plan for a lesson/programme/presentation. It was evidenced that the development of planning skills was more intentional in the Kindergarten department when compared to the other departments. A similar conclusion can be drawn when it comes to the evaluation skill.

- There was no focus on developing students' monitoring skill. Rather, this skill took place in the lecture rooms for the lecturers' benefit, where several techniques were utilised in order to monitor the progress of the lecture or students' understanding of the lecture content. However, monitoring skills might be being promoted in art education practical sessions as the findings indicated.

- The, planning, monitoring and evaluating skills that were observed or reported through the students and lecturers' interviews tended to be regular thinking skills rather than metacognitive ones, as they did not guide students to reflect and think about their thinking, or metacognition.

- Student participants established a relationship between metacognitive skills, i.e. planning and monitoring skills, in which the planning skill serves as a base from which to develop the monitoring skill.

- Traditional teaching methods were the common teaching strategies present in observation and reported in interviews. However, these methods were believed to hinder the promotion of MC/MS, according to lecturer and student participants.

- Factual, recall and structuring questions were observed and reported as the types of questions lecturers ask. These did little to support the development of MC/MS among the students.

- There was a matching of the lecturers' and students' responses regarding the uselessness/drawbacks of some of the questions posed and teaching strategies applied.

- The finding revealed 16 metacognitive pedagogies involving: practical application, discussion and dialogue, explicit/implicit instructions, questioning and self-questioning, explanation, modelling, problem-solving, prompting, cooperative learning, self-learning method, micro-teaching, role-play, strategic planning, brainstorming, reading, and KWL strategy.

- Learning activities, such as micro-teaching and presentations that were observed and reported could be a good path to facilitate development of MC if they were planned appropriately to meet this goal.

- Most of the interviewed students as well as lecturers shared a common belief that integrating MC/MS into the curriculum would be the best way of fostering their development, and that these could subsequently be transferred to real life situations.

- The lecturer and student participants agreed that the University, the lecturers, the students, and the limited lecture time represent the most significant potential challenges facing the application and development of MC/MS in HE in KSA.

- Most of the interviewed lecturers and students believed in the importance of MC for individuals developing a better approach to learning and how they live their lives.

- According to many of the lecturers and students interviewed, the incorporation of MC/MS should be the responsibility of two parties: the University and the lecturers.

- Some significant issues that are subject to ongoing debate have been raised through this study, such as whether MC is a conscious or unconscious process and whether MC is a general or subject-specific domain.

- One of the interesting findings that emerged was the relationship between the educator's MC and the students' MC. Lecturers explicitly using MC will engender it in their students.

- Based on the analysis of data, some are questions raised, for example, whether learning how to 'think about your thinking' or 'metacognition' should be left to students or taught by lecturers. Lecturers' scepticism or warmth towards MC might play a decisive role regarding the promotion of MC to students. Furthermore, despite the recent call for Saudi students to develop thinking skills, we might ask why so many still depend on memorising and so few lecturers promote students' thinking. Thus, Nihad asked, "Have we established self-learning in Saudi society or not?"

4.6 Summary

This inquiry was aimed at building a comprehensive understanding regarding whether MS are being developed in lecturers' teaching practices in a Saudi university and, if yes, how? This chapter has presented the findings that emerged from observations, interviews, and group interviews with lecturer and student participants. Subsequently, consideration of the issues raised from the analysis of the data that I believe need to be addressed further has been given in overview. The next chapter will discuss the study findings in relation to the existing literature.

5   Chapter Five: Discussion

5.1   Introduction

The current study was conducted to explore the perceptions of a college of education's (COE's) lecturers and undergraduate students of the presence and promotion of metacognitive skills (MS) in lecturers' teaching practices in a COE at a University in the Kingdom of Saudi Arabia (KSA). To construct a rich understanding of the issue under investigation, I utilised classroom observation, semi-structured interviews of individuals and group interviews. Findings showed that lecturer participants lacked knowledge of metacognition (MC) as well as MS, which were the primary subject in this study (e.g. planning, monitoring, and evaluating). The findings further demonstrated the presence and enhancement of planning, monitoring, and evaluating skills; however, the application or promotion of them did not equate to the engagement of the students in the process of thinking about thinking, or MC. Hence, it cannot be described as MS.

The findings further showed some perceived impediments that discourage the promotion of MC in higher education (HE) in KSA. Issues associated with educational norms, university, university lecturers, and students were all highlighted as potential limitations that discourage the enhancement of MC in Saudi HE. Furthermore, the findings suggested a number of promising approaches that would facilitate the incorporation of MC in HE in KSA, which should be addressed by the university as well as the lecturers. For instance, the establishment of the lecture room community of practice as well as the departmental communities of practice; raising university lecturers' awareness and skillfulness and training them in MC; lecturers' acting as role models of MC in the lecture room; and integrating MC into the teaching of courses. In this chapter, I discuss the study's main findings, examine them in relation to the research questions and link them to the wider literature findings. I also examine the meaning of these findings and interpret it theoretically, taking into account the social constructivism perspectives adopted in this study.

5.2 Conception of Metacognition, How it Informs Teaching Practices, and Consequences

To achieve the primary purpose of the current study, it was a necessary to find out *'How lecturers in the college of education at a university in Saudi Arabia understand metacognition'* as their conception of MC would shed light on the actual promotion and application of MS in the lecture rooms (Ader, 2013). Research in MC shows that there is a link between educators' knowledge of MC and their application or promotion of it in the classroom. For instance, Wilson and Bai's (2010) findings proposed that there are considerable linkages among teacher participants' declarative knowledge, procedural knowledge, and conditional knowledge, as part of teachers' pedagogical knowledge of MC. This is further cemented by Wen (2012) claiming it is advantageous to students' learning if their teachers have an adequate understanding and awareness of MC and how to practice MS perfectly in their teaching. This shows that lecturers' knowledge and understanding of MC can inform their teaching practice.

This emphasises the relationship between educators/teachers' awareness of MC and its' usage or enhancement in the classrooms. Findings emerged from lecturer participants' responses that reveal that they lack knowledge of MC. Lecturers' understanding of MC ranged from low to no understanding or knowledge at all. I propose that evidence of this claim can be summarised as follows:

- 'Metacognition' was an unfamiliar term for some, who had never heard about it;
- Those lecturers who claimed knowledge of MC provided various definitions. However, none of these definitions were built on theoretical or practical bases or previous research reports**.** For instance, some provided surface definitions while others demonstrated misconceptions of MC.
- Only one lecturer provided a comprehensive conception of MC and she admitted that she had read about it. However, it was not clear to me if she had read about it for the purpose of the interview or as a part of her teaching priorities or personal interests. I assumed that her stated

interest in 'human development' has also contributed to her understanding of MC (See Chapter Four). She believed that MC would contribute to the human development of HE students.

The findings that showed that lecturers lack knowledge of MC concurs with findings reported in previous studies. Georghiades (2004), for example, found that "the notion of metacognition is largely unknown to the average science teacher" (p. 379). However, in contrast to this and to my findings, Velzen (2012) contended that teacher educators were familiar with metacognitive knowledge, and that they were bringing metacognitive concepts to the students' attention. But Mahdavi and JafarZade (2014) found that both English Foreign Language teachers and in-service teachers lack adequate knowledge of MC, and the authors added that most teacher participants had not heard about MC or its concept or explicit instruction strategies. Furthermore, Wen (2012) concluded that the appropriate definition of MC should be discussed with college teachers, which indicates that college teachers currently lack a clear definition or understanding of MC.

I suggest that a possible reason for lecturers' lack of awareness of MC might be that MC has not been introduced to university lecturers through the university or the college guidelines' or through seminars or workshops provided by college departments or through the 'Development and Quality Assurance Deanship' (DQAD) that is responsible for the improvement of lecturers' professional performance. Hence, they were unlikely to be aware of it. This interpretation is similar to that reported in Madkoor's (2007) study findings, in which the teacher participants explained the absence of MS in their discussion with the fact that they did not receive training on such skills during their study in university or during in-service teaching (cited in Yassin, El-Omari & Al-Barri, 2013). Similarly, Alzahrani's (2017b), a Saudi research study identified the absence of training for teaching with metacognition as an obstacle to the application of MC in the classroom. Moreover, from my study findings, it appeared that lecturers have not requested to apply or teach MC in general or MS in particular to students.

Regarding, the COE guidelines, a close look at the college's vision, message, values, and goals (see Appendix, S), reveals that they are written in a brief and general way and there is no clear instruction on MC. For example, one of the COE's values is 'the commitment to continuing learning'. Such an educational

value might be seen as a feature of MC or might fit one of MC's ultimate goals. However, I observe that there are no details or mechanisms included that could enable a lecturer to translate it into reality or practice, a point also identified by some lecturer participants at interview. This point is similar to that made by Ben-David and Orion (2013), a study in which the teacher participants study attributed their lack of knowledge of MC to two reasons; the lack of learning materials and the absence of close, supportive in-classroom guidance.

Additionally, with respect to lecturers' professional development, I found that none of the lecturers in the study attended any internal or external seminars, workshops, or training programmes concerning MC. I also searched the University website to get information about the workshops provided to lecturers and there was no reference to MC. Thus, I would argue that MC might be unknown at the University/Department level, in which my study was conducted.

As a former student and a lecturer who studied and taught at the University in which the study took place, I had not come across the idea of MC during my time there. And yet, Baird (1988) claimed MC is a valuable foundation for conceptualising quality in education. Despite the call for improvements to the Saudi education system for example through the Tatweer project and Afaq project that have been established by the government to enhance the quality of education in KSA, I found that the development of MC and MS was not addressed adequately in these initiatives or procedures (Jalil & Zig, 2009).

I believe that students' or lecturers' insufficient or lack of knowledge of MC has several consequences. Firstly, based on my findings, I would argue that MC in general and MS in particular might not find its way into the lecture rooms due to lecturers' ignorance. Similarly, Mahdavi and JafarZade (2014) asserted that we cannot demand teachers to incorporate metacognitive knowledge and skills in schools if they do not have adequate knowledge of the concept. Furthermore, I contend that we cannot expect lecturers to be interested in teaching MC to their students at HE if they are not given adequate training on it. In the current study, some lecturers, as well as student participants, reported that lecturers' lack of knowledge of MC might be the primary factor as to why MC and MS are neglected or absent in the lecture rooms. This supports the claim that many

lecturers are simply unaware of MC and MS, which prevents them being taught to current students.

Secondly, research has shown that where MC appeared in the lecture rooms it often was employed in an unintentional and inaccurate manner (Alshammari, 2015). This is consistent with my findings in which some lecturer participants expressed the belief that they might apply MC in an unconscious manner. Some lecturers said that based on what I told them about MC during the interview, they realised that they might apply some MC without being aware of it. For example, a lecturer participant stated that she usually self-questions herself, i.e. "Did I ask the question in an intelligible way? Or did I ask the question in a form that is beyond the students' capacity to understand? And then I say to myself, Okay, I am going to ask the question in a different way until I make it simple, or until I find that the students become able to answer". These questions would clarify part of the lecturer's mental processes.

However, I don't think this implied that the students have been engaged in or have been taught MC. This matches Joseph's (2009) argument that it might be common practice for educators to ask themselves some questions such as: 'What was I thinking when I decided to focus on this segment/part of the lesson? Did the students understand my explanations of the lesson? How I can make the information easier, so the students understand it? Did I assess the students' understanding/learning in an appropriate manner?' Joseph (2009) added that these inquiries are an ordinary part of a teacher's mental processes, showing that self-reflection or self-questioning is an inherent part of the teaching process. However, a worry is that teachers do not teach metacognitive awareness to their students.

Furthermore, I contend that lecturers' lack of awareness of MC would have an impact on students' learning and their opportunities of future occupations. For example, group interviews and some interviews suggested this. Whereas, observation showed that lecturers currently focus more on knowledge transmission, and ignore the teaching of skills that are currently required in the Saudi labour market. The lack of MC may produce graduates who are less able to transfer their learning to new situations and see things from different perspectives, qualities required for graduate employment, which was evident

224

from my study. For instance, a lecturer participant claimed that students lack transferable skills; she explained that they could not, for example, apply theoretical and practical information to new situations, i.e. the Field Training course.

These types of graduates are indeed inconsistent with what the community and employers want and expect from university students. Horsburgh (1999) asserts it is necessary for HE students to be lifelong learners; they further will need transferable skills. Employers prefer individuals who have the ability to progress, who like challenges and see them as an opportunity rather than a threat. Ford, Smith, Weissbein, Gully, and Salas (1998), Georghiades (2000), and Perkins and Salomon (1992) suggest that promoting students' metacognition can facilitate the transfer of skills. Metacognition refers to one's knowledge of one's cognitive processes and one's ability to control, monitor, and regulate it (See Chapter Two). I believe that developing students' metacognitive skills would in turn lead to activate self-monitoring skill, which would improve students' abilities to diagnose the task they are involved in, adjust their performance, develop better understanding of the task, develop better understanding of the strategies required to perform the task, and develop better confidence in their task competencies/abilities (Ford et al., 1998; Perkins & Salomon,1992). Accordingly, these learning abilities then lead to higher performance in their ability to transfer skills and knowledge they had learned to another situation or context (Ford et al., 1998; Perkins & Salomon,1992). In sum, employers want pro-active thinkers with these skills.

In a similar manner, Rugh (2002) in his review of Arabic education systems, pointed out that one of the participants in the A MIDEAST-sponsored conference in Marrakech, Morocco, on Arab education, claimed, "many Arab university graduates were unable to find adequate jobs because they were not properly educated" (p. 407). This is in line with a petition signed by Saudi citizens from both religious and secular groups and presented to the king of KSA in December 1990; they claimed:

> …We believe that our country's educational system is in need of comprehensive and fundamental reform to enable it to graduate faithful generations that are qualified to contribute positively and effectively in building the present and the future of the country, and to face the challenges of the age, enabling us to catch up with the caravan of

nations that have vastly surpassed us in every field (Middle East Watch, 1992, p. 61).

Drawing on the above, I developed the opinion that the absence or neglect of MC as well as thinking skills may have an impact on society as well as education. The focus of education in Saudi Arabia is currently mostly on the teaching of content of the curriculum, which might not be consistent with the demands of the 21st century that are required to provide societies with lifelong learners or metacognitive learners who should be knowledgeable and skilful in dealing with everyday life and occupations matters (Onsman, 2010). This agrees with Altayar (2003) who stated that in Saudi Arabia, for example, content "does not satisfy the needs of the lives of individuals or the specialised needs of the community" (cited in Alnahdi, 2014, p. 4). Therefore, Alnahdi (2014) made the assumption that Saudi education reform should not be fooled with the idea that education is just the content within the textbook, but it should rather include all aspects related to education.

Interestingly, I found that lecturers' nationality did not make a difference regarding their understanding of MC, although non-Saudi lecturer participants reported that the education system in their countries are different from KSA's education system. Rugh (2002) confirmed this point of view, stating, there are differences in educational systems among Arab countries. However, I argue that the high emphasis on subject content and rote teaching methods in Arab countries means that educators do not get sufficient training in MC. Interviews with and observation of Saudi, Egyptian, Sudanese and Tunisian lecturers support this. On this note, Allamnakhrah (2013) claimed the Arab education system still focuses on traditional teaching and rote learning. This situation is observed in KSA according to Alwasal and Alhadlaq (2012), who assert that the teaching methods are typically traditional at most Saudi universities. Such traditional methods do not support training in the teaching or practicing of MC or MS.

To sum up, I conclude that the absence of MC from the University/college guidelines and professional development programmes seems to have an impact on lecturers' lack of knowledge of MC. Thus, my findings suggest that the COE should review and revise its guideline or issue clear new ones that enable the faculty members to understand and work to achieve the COE's

vision, message, values, and goals; because I believe one cannot ensure the ability of each lecturer to predict or understand its agenda or interpret and read between lines.

I propose that these guidelines should cover theoretical and practical dimensions; they should describe the type of knowledge and skills that are supposed to be taught to undergraduate students such as teaching and communication skills, and additionally to different types of thinking. The guidelines should explicitly include MC. In a like vein, Alsudairi (2012) argued there is an urgent need to provide guidance, support, help, and training in new teaching and pedagogy amongst KSU [a Saudi university] faculty members and to support and create a culture that appreciate teaching/instruction as a practical and intellectual activity.

5.3   The Application and Development of Metacognitive Skills

In this section, I discuss the presence and promotion of MS through lecturers' teaching practices from the perspectives of lecturers and undergraduate students.

5.3.1 Lecturers' Perspective of the Presence and Promotion of Metacognitive Skills

The second research question investigated the *'extent to which the lecturers promoted students' metacognitive skills during their class sessions'*. My observations of lecturer participants' actual teaching practices and interviews with them helped me to create a picture of the existing or enhancement of MS in the lecture rooms.

The findings showed that lecturer participants did not consistently apply planning and evaluating skills during their teaching practices in the lecture rooms. For example, they did not clarify or discuss lecture objectives, resources, or even teaching strategies that they were going to use in the lecture. I attribute this to the absence of a daily written plan, as some lecturer

participants acknowledged. They only prepare an outline plan of the course and distribute it to the students at the beginning of the semester. Then in each lecture they focus on preparing a PowerPoint that usually involves the lesson content or information. I suggest this shows that the primary interest for lecturer participants was to teach course content, rather than skills.

Additionally, developing thinking in general is not a basic goal for most of the lecturer participants. Evidence for this can be noted in their responses to my question 'Besides teaching the course content, what are the other things you seek to provide your students with?' Their answers included developing listening and visual skills, acquiring deep knowledge of the subject, linking up a subject/discipline to life, linking up theory with practice, mental development, widening their perception, developing religious and affective values, developing artistic or creative interests, raising motivation, self-learning and research skills.

Only two lecturers reported developing thinking skills, although my observation of them in the lecture rooms did not support this claim. My findings match Peteranetz's (2014) findings that indicated the extent to which a lesson includes MC relies on how the educator thinks about the lesson while designing and planning it. So, I suggest this also might be responsible for the absence of thinking skills and questions in the lecture room and lecturers are unlikely to consider metacognitive skills or thinking skills while planning the teaching of their courses.

Hence, a reduction in the opportunities to teach or develop students' MC/MS occurs. On a related note, Joseph (2009) pointed out that "students' metacognition may be overlooked in the classroom because most instruction focuses on the content rather than on the strategies used to learn the content" (p.100). I observed a similar situation in relation to the application of evaluation skills in the lecture rooms. For example, that lecturer participants' did not engage themselves as well as their students in an evaluation process concerning their teaching or the given lecture and how it could be improved. I observed that the lecturers were more interested in monitoring students' understanding, finding out whether they understand the given information. This also emphasises the domain of knowledge transmission on educators' priorities. Conversely, I assert that discussing or sharing the lecture plan and getting

feedback from students are likely to enhance students' engagement and MC. In this respect, data from students' responses matches Paris and Winograd's (1990) statement that classroom practice should give students and teachers opportunities to talk over their feeling and thoughts about learning to encourage the development of students' MC and motivation (i.e. lecture room as community of practice).

Secondly, my findings revealed that students' planning, monitoring, and evaluating skills are promoted. I observed these skills were addressed through learning activities that students undertake as part of the courses' assessments, and this was further evidenced during my interviews with lecturer participants. The students, for example, were required to plan a lesson or a presentation or a programme, provide a written plan or PowerPoint slides, present or perform it in the lecture rooms; and then the student's performance, teaching, or presentation were evaluated by the lecturer as well as the students' classmates'.

Furthermore, findings demonstrated that there is significant attention given to the development of planning and evaluating skills rather than monitoring skill. This might be because teachers are more aware of planning and evaluating because these are skills they develop during their teacher training. They are also skills more traditionally used in classrooms. This implies that a teacher is required to plan his/her lesson, present it, and then evaluate his/her teaching as well as his/her students' progress and learning.

Another possible reason reported by a lecturer and a student participant was that usually people focus on the beginning and the end whereas what is in the middle is less important. However, I would argue that MC is very much a process that is relevant throughout the session, including the middle of a session, and failure to emphasise this may be contributing to a lack of MC in HE.

My findings also showed that the emphasis on the enhancement of planning, monitoring, and evaluating skills was varied among the three departments, namely kindergarten, special education, and art education. For instance, I observed there is a focus on monitoring skill in the art education department, as a student cannot move from a step to the next without monitoring while

performing a practical project. In the Kindergarten department, however, I noticed there is more emphasis on the development of undergraduate students' planning and evaluating skills.

I posit that these differences between the three departments concerning planning, monitoring, and evaluating skills might relate to the primary interests of each department. For instance, through engaging with lecturer participants and interviewing them, I observed that lecturers in the Kindergarten department were interested in training kindergarten teachers who were compliant with the stated objectives of the COE. Lecturer participants in Art Education echoed that the department aims to graduate artists. Hence, their teaching was focused mostly on art skills and had no relation to MC or any type of thinking, which a student participant confirmed. As such, although they utilised, for example, monitoring skills, they used these to complete projects to train artists, rather than train metacognitive thinkers.

I assume that the emphasis on graduating artists emerged as a solution to employment issues in the teaching sector. In KSA currently, students find it hard to get a teaching job, for several reasons. Firstly, the schools do not absorb the large number of teacher graduates. This assumption is similar to Alwasal and Alhadlaq's (2012) argument that the public sector in KSA is no longer able to absorb all HE graduates into its workforce. Whereas artists find self-employment decorating for parties, homes, and advertising on social media, as a lecturer participant commented. Similarly, Achoui (2009) stated one of the serious challenges that KSA faces is increased unemployment particularly among those who graduate from HE. Consequently, I developed the belief that some departments have started to adapt their goals and priorities. Thus, they shifted from the college's primary objectives of teacher training to training artists.

The stated purpose of the COE is "to provide society with teachers who are prepared educationally and professionally" (The College of Education Guidelines, 2015). Therefore, I would argue that the college departments should consider this aim and work according to it for example by including MC and MS in their training as a skill for life. Moreover, each department should introduce the lecturers to the college vision, message, values, and goals, and

request them to adhere to them to achieve the college's goals and desired outcomes.

As I mentioned in Chapter Four, a lecturer participant acknowledged that she did not read the college guidelines and that she works by herself. This implies she might miss what is in the guidelines. I am not against lecturers making changes or adopting new approaches or creative ideas, but this should not be done in isolation, and instead should be studied and addressed by a formal panel in the university and the college community. Moreover, inconsistencies in lecturers' application of college guidelines might result in "shortages and imbalances in the qualities that must be displayed by teachers, such as … a sense of responsibility, desire, and enthusiasm for teaching, which reflects on their students" (Altayar, 2003, cited in Alnahdi, 2014, p. 3). Additionally, if metacognition did become part of the University's objectives, I currently could not expect the application or development of it to be consistent, because of the divergent interests and approaches adopted by each college or department.

Furthermore, the planning, monitoring, and evaluating skills that I observed in the current study could not be described as MS. These skills were addressed as regular thinking skills that can be followed to undertake or perform any task or project. I noticed that the process in which these skills were taught did not guide or direct students in metacognitive thinking (Wilson & Bai, 2010). No evidence came to light that these skills were undertaken as MS. It is true that some lecturers required students to plan and evaluate, but they did not take these skills further and shift them to the metacognitive level of thinking.

Students were not required to re-think, reflect upon their thinking or self-question themselves while processing those skills. For example, some lecturers would have a student produce a written plan that contained specific elements in a particular order, but that would not reflect the actual thinking and rethinking processes of MC. In a classroom observation, a lecturer reviewed with the students the plan elements, and she wondered why some of these elements were absent from some students' plans of a lesson. She then stressed that they must not ignore any of these elements, but that was all. She missed the opportunity to engage the students metacognitively. Another example from classroom observations is the evaluating process. I observed that most lecturer

participants started evaluations by asking the students what do you think about the student's presentation/performance? What was good and what was not? And that was all. This suggests that the planning, monitoring, and evaluating skills being taught cannot be considered as MS.

Whereas, I consider that teaching MC and MS requires that educators explicitly explain and discuss the mental processes involved, not simply focusing on the content or a set of steps of metacognition (Wilson & Bai, 2010). Furthermore, I think it is necessary to describe why this activity, i.e. planning or evaluating, is a helpful activity and how the students would benefit from it in present and future (Peteranetz, 2014). On a related note, Velzen (2012) argued that achieving students' acquisition of metacognitive knowledge possibly implies that the performance of a task is not the focus of interest, but an individual's cognitive operation in relation to getting an overview of the learning situation and looking for additional improvements is the centre of attention.

Moreover, I suggest that telling students what should be involved in a task or how to order it does not necessarily mean that a student will understand or benefit from such activities, i.e. planning in the long-term or across different contexts. In this context, Wagner and Sternberg (1984) argued that teaching specific approaches or strategies, for example the order in which to perform or undertake a particular task, would not provide students with the skills that are needed in the long-term.

The absence of MS in the lecturers' teaching practices in the lecture rooms corroborated those findings reported by Wen (2012) who found American and Taiwanese college teachers showed little use of metacognitive strategies in their teaching (e.g., planning, monitoring, evaluating). Contrary to my findings and those of Wen, Velzen's (2012) findings showed that teacher educators were bringing metacognitive concepts to the students' attention and that they attempted to promote students' MC. Velzen's study further suggested that knowledge of cognition and knowledge of the self were used frequently within classroom practices. He also argued that teaching experience is a significant factor in the teaching of MC. Similarly, Peteranetz's (2014) findings showed that teacher participants intentionally attempted to enhance students' MC while teaching; and that they used implicit instruction such as modelling and

prompting rather than explicit instruction. Peteranetz added that teachers had attended training concerning promoting MC through graduate education courses or through school district programmes. Therefore, I assert that lecturers' training and awareness of MC would play a central role in their application or encouragement of students' MC, whereas lecturers' lack of awareness of MC would discourage the application and encouragement of MC. In my study, some lecturer participants put forward the claim that if they do not have knowledge or practice related to MC then they would not be able to apply it.

Furthermore, I observed that MC in general was unlikely to appear because of the nature of lecturers' questions in the lecture rooms that did not encourage thinking or thinking about thinking. Most lecturers' questions revolved around investigating the clarity of information by asking structuring questions such as, 'Do you have any questions? Is the lecture clear?', or questions that ask students to recall information. My findings are similar to those of Jerwan (1999) who puts forward that the lines of thought pursued by teachers are often prepositioned with 'What' rather than 'How' or 'Why', limiting opportunities for higher thinking skills (cited in Yassin et al., 2013). Vassall-Fall (2011) found that students in a Saudi University stated that lecturers often asked them to remember answers, rather than asking them to formulate their own. This shows that lecturers themselves did not encourage MC or MS in their students.

Regarding lecturers' questions in the lecture rooms, one interesting finding was that MC might appear spontaneously through prompting questions that lecturer participants claimed they sometimes ask. For example, 'Why did you do this design or choose this item? Why did this happen? On what basis did you say these words? What makes you say that? On what basis did you put forward this answer?' are examples of implicit instruction that I suggest might foster MC because it would engage the student in the metacognitive process; lead her to think, reflect and rethink about the thinking process that she had gone through, and then evaluate her thinking (Ader, 2013; Peteranetz, 2014).

However, I would argue that not all prompting questions could be classified as metacognitive questions, because the underlying intention of some of them may have different purposes. For example, an art education lecturer participant

acknowledged that she might ask such questions to find out if the student does the work by herself or if someone else did it for her. A student participant from the same department stated the lecturer might ask such questions to find out why mistakes happened, rather than to promote MC in the students.

A closely related issue was the types of exam questions. My findings from lecturer interviews showed that the types of exams' questions do not encourage students to think. Most of the exam questions are closed-ended questions (multiple choice, true or false, match, or underline) or questions that direct students to the answer. I believe this type of question limits students to lower cognitive processes i.e. memorising/remembering. A possible reason for the focus on closed-ended questions might be the large number of students in a class, which makes it more likely that lecturers will focus on closed question, which take less time and are easier to evaluate.

Another related reason I identified is that lecturers lack the ability to write and correct essay questions that require answering in detail, as a lecturer participant admitted. This matches Nassif's (2007) study findings in which Saudi teachers who engaged in his study stated that they lack skills, knowledge, and confidence in using different assessment styles in classrooms, which Nassif attributed to the low level of assessment and evaluation training they received (cited in Alnahdi, 2014).

Therefore, I argue that there is a need to train university lecturers in how to ask and mark different types of questions, especially those that could improve students' thinking skills including MS. Furthermore, they should be trained in asking questions that activate higher order thinking skills as a lecturer participant claimed.

I consider another possible explanation of lecturers' lack of awareness or practice of MC is that lecturers might not consider new educational plans or reforms in the country. For example, Yassin et al., (2013) noted most teachers' performance is unaffected by educational development plans. Similarly, Achoui (2009) argued that in 2002 the Saudi government established a vision to develop the country, however, Saudi policy makers failed to develop a comprehensive educational strategy for actually achieving their vision. Thus, I hold that any educational reforms taken by the country must be taken seriously

by educational institutions and include plans as to how they will be achieved. Otherwise, any governmental and educational efforts towards improvement will not bear fruit.

Drawing on the above discussion, I reached the view that currently MC and MS are not part of lecture room activities, and students are not encouraged to acquire and develop such skills. Accordingly, they might not recognise the value of MC and MS for their everyday life and career. In this respect, Garner and Alexander (1989) argued a student may fail to utilise strategies because s/he does not believe that the strategies will help her/him. The student anticipates not being able to produce required outcomes. Thus, my study's findings suggest a need to link developing MC to student grades.

I would suggest that the planning, monitoring and evaluating skills that I observed in the current study would have greater impact on the enhancement of students' thinking and MS if they were given with a consideration of MC. I developed this thought as each one of these skills involves information that is related to MS or skills associated with 'regulation of cognition' in Schraw and Moshman's (1995) model of MC. For example, Schraw (1998) and Schraw and Moshman (1995) outlined that the planning skill involves setting goals, allocating information that a learner needs, allocating strategies, the time requested to perform the task, and deciding on the strategy sequencing. Similarly to my findings, which, for example, demonstrated that the plan activity that students were requested to design, had similar components to those reported by the aforementioned authors. However, it missed the thinking about thinking that occurred before, during, and after the designing of this plan. I noticed no discussion or verbal/written report was requested to describe the thinking process which occurred. Thus, I suggest that lecturers engage students in verbal or written discussion concerning metacognition regarding the plan they designed or similar activities.

For my study, Velzen's (2012) findings brought to my attention an important issue, whereby he suggested that teaching experience may play a critical role in teacher educators' teaching of MC. Velzen's argument may highlight that teaching experience alone can be enough for educators to become knowledgeable and skillful in applying MC and thus, able to help students to

become metacognitive learners. However, although Doganay and Ozturk (2011) found that compared to inexperienced teachers, experienced teachers were utilising more metacognitive strategies in their teaching, such as planning, observation, and organisation, the authors nevertheless acknowledged that more experienced teachers were expert and better trained and qualified.

In my study, lecturer participants' teaching experiences ranged from 28 years to a year and a half, however, unlike Velzen I would argue that their teaching experience did not make any differences regarding their knowledge or application of MC. I propose that lecturers tend to stick to specific teaching styles that they first learned, and they do not try to improve upon them, for example some confirmed when I asked them at interview that they did not attend any internal or external seminars or workshops or training programmes. Therefore, I assert that for some educators, length of experience may not heavily influence their pedagogy, teaching priorities or professional development (Kenway et al., 1995, cited in Graham & Phelps, 2003). Thus, length of teaching experience might not lead to educators developing knowledge and application of MC for themselves or their students. Thus, there is a need to train lecturers in MC and increase their awareness of it.

5.3.2 Students' Perspective of the Presence and Promotion of Metacognitive Skills

The third research question investigated *'undergraduate students' perceptions of whether and how metacognitive skills are being promoted at the college of education at a University in KSA'*. My findings showed that, on the one hand, monitoring skills were practiced by lecturers with planning and evaluating skills as I explained above. The planning, monitoring and evaluating skills are promoted in the lecture rooms in the three departments (Kindergarten, art education and special education) through activities that students are required to perform. However, I felt these were addressed inconsistently, for example, there is more focus on the promotion of planning and evaluating skills in kindergarten department compared to the other two departments. Findings further showed that there was little attention paid towards developing students' monitoring skill.

Building on classroom observations and students' group interviews, the planning, monitoring and evaluating skills that I observed in the current research study cannot be described as MS. They tended to be regular thinking skills or procedures that are required to handle any project or a task as I discussed in the previous sub-section. Evidence of this claim can be noted in art education students' responses in the group interview stating that, planning, monitoring, and evaluating skills take place in the practical courses rather than the theoretical courses. The student elaborated, 'We choose a design, apply it, monitor the work step-by-step and then finish it according to the criteria set by the lecturer.' One student added explicitly that there is no focus on thinking skills. Similarly, a kindergarten student reported, "Lecturers asked us, for example, to evaluate, but they did not ask us about the basis of the evaluation and what things made us generate such an evaluation". Indeed, students' responses confirm findings which emerged from observations as well as lecturers' interviews that MS were not present or promoted in the lecture rooms.

I submit that engaging with the learning process can be done without MC, but only MC enables a student to learn from their mistakes. For example, Georghiades (2004) argued, it has been widely reported that students may interact with their studies passively, through reading and memorisation without thinking critically about it. In mathematics, they may go through the process to find an answer, but fail to understand how the process works or why it is important. Involving MC in the classroom means that students pay more attention to the process of learning rather than simply repeating set tasks. It also allows them to perceive their own learning and improve it. By assessing their own performance, metacognitive learning will allow students to become more efficient, effective and engaged learners.

According to Hartman (2001a), despite the importance of metacognitive knowledge and skills, "they are not often taught in most areas of the curriculum" (p. 3). A similar situation was observed in the context of teacher education, for example, Ozturk (2016) found that pre-service elementary teachers participating in her study were not sufficiently guided and supported in teaching for MC. This matches my findings that showed that students were not adequately taught MC or MS or how to apply them, whether for their own learning/thinking or for their future students' learning/thinking. Consequently, I believe that the university

student would not understand MC or MS and they would graduate with poor or no lifelong MS.

In like regard, Hartman (2001a) argued that many students are unaware of the concept of MC and moreover do not reflect on their thinking and learning and how to improve. Hartman's argument was evident from my findings, showed that the student participants lack awareness of MC and MS, despite having studied MC and MS as part of the 'Thinking Skills' module. Their knowledge of MC was limited to remembering the term 'metacognition' only. Two students only defined MC and showed a misconception; one described MC as "recognising what is between the lines; it is not a clear thing and it differs from normal thinking". The other defined it as a strategy; she added that "the lecturer described it as a strategy all the time he spoke about". My findings are similar to those found by Ozturk (2016) in which pre-service elementary teachers involved in her study stated that they were not familiar with MC, though there were some readings in their previous classes that touched on the term. These findings all show students' lack of awareness of MC/MS.

A possible reason I see for student's lack of awareness of MC and MS might be the lecturers' traditional questions in the lecture rooms. According to the classroom observations and students' group interviews, I noticed that factual questions, clarifying questions, and structuring questions were the most often asked questions in the lecture rooms. These types of questions are aimed at investigating the clarity and delivery of information, as a student participant claimed. I suggest that if the teacher does not emphasise MC in their teaching, students are likely to stick to lower level cognitive processes such as memorisation (Ader, 2013). The student also stated that few lecturers ask questions that stimulate thinking. However, when asked, these questions are rare and often raised at the beginning of the lecture to capture students' attention. I suggest that these questions act as warm-up questions and were not aimed at facilitating metacognition or encouraging students to think.

Moreover, based on classroom observations and students' group interviews, I noticed that students were not given adequate time to think in answer to questions; they also did not receive what I considered to be helpful feedback as the lecturers mostly gave the right answer or redirected the question to another

student. Thus, the student misses the opportunity to develop metacognition, recognise their mistakes or to value the questions and strategies that were used. In this regard, Alzahrani (2017b) argued that traditional feedback given to students might fail to assist them to monitor and adjust their learning/thinking.

A closely related point is the students' lack of confidence that I suspect prevents them from asking or answering questions. I observed in the lecture rooms that students rarely asked questions, and preferred not to answer questions. In this respect, I would argue that students' resistance to questioning could be attributed to the fact that these questioning strategies on the part of lecturers have tended to be missing for a long time in KSA's education system, as reported in Al-Zubaidi (2012). Accordingly, I conclude that many students have not experienced effective questioning during their school years and therefore do not understand its value.

Furthermore, Saudi students have been shown to be wary of questioning their lecturers because they perceive them as a reliable authority figure above question (Barnawi, 2011). I observed few lecturers inviting questions, and only four students asking questions during my observations. This has meant that critical thinking and self-voice were not taught in KSA, which would hinder metacognition.

Moreover, I infer some students are reluctant to ask questions or engage in a discussion for cultural or personal reasons, for example, not wanting to feel embarrassed or indicate a lack of understanding (Nelson & Carson, 2006). This interpretation was evident from, for example, students' responses in which they described evaluation processes as sensitive, and that some of them prefer not to do this as it might embarrass the students being evaluated.

Another potential reason I identify was the absence of practice. Student participants stated that in the teaching of the 'Thinking Skills' module there were no practical activities or practical assignments that could help students put theoretical information into practice or engage students in thinking skills including MS. A student participant expanded that the situation would be different if they had had put information into practice. They suggest that traditional teaching methods that were used to teach the subject could not help them to understand the subject or benefit from it. In a like vein, Niemi's (2002)

findings indicated that pre-service teachers "criticised their education strongly" for passive teaching and learning methods (p. 770).

In the context of Saudi Arabia, this was evident in the claim made by Cassidy and Miller (2002), in which they criticised Arab HE, including in KSA, for the pervasiveness of memorisation and passive learning which means that students are losing the ability to think critically or apply knowledge to new situations (cited in Rugh, 2002). Hence, I suggest there is a need for other pedagogies such as modelling and utilising thinking in a way that can help students to be metacognitive learners; with a focus on applying and promoting of MS.

Accordingly, I suggest that giving students information about MC does not necessarily mean that the students have developed MC or MS. This agrees with Ozturk (2016) stating talking about MC in lectures would not automatically assist student teachers in promoting adequate and appropriate schemata to help their teaching practices.

Interestingly, a student participant suggested that all educators' MC would have an influence on their students' MC. She claimed, "If a teacher has metacognition, this would help her to know her students' thinking style and how to deal with their thinking processes. Accordingly, she knows how to teach them". This is in line with Prytula (2012), who expressed the belief that individuals' understanding of MC has an impact on how they use their understanding and knowledge to affect the learning of others or to learn themselves. Baird (1998) argued that the university student should graduate with an awareness and engagement in the process of their own processes in the classroom; these students, then, can become intentional and aware in their completion of tasks, understanding how best they understand and retain information I assume this applies beyond the classroom, building critical learners and self-aware adults.

Furthermore, after the students have been introduced to planning, monitoring, and evaluating as MS, some developed the belief that there is a relationship among MS (planning, monitoring, evaluating), that they inform each other. For example, they suggest that there is a relationship between planning and monitoring skills and between planning and evaluating skills. This matches Schraw (1998) argument "it is likely that improving one aspect of regulation

(e.g., planning) may improve others (e.g. monitoring)" (p.114). This underscores how holistic the advantages of MC and MS can be.

Another interesting finding was that students majoring in art education and special education claimed that lecturers' teaching practices in their departments did not help them to develop planning, monitoring, and evaluating skills and that they developed them through experience, for example one student said, "I feel that we, students, promote metacognition on our own, not through lecturers' guidance". This matches Garner and Alexander's (1989) argument that "knowing about knowing" grows with experience and age (p.143). In agreement with Peteranetz (2014) I argue that, although one's utilising of MC might grow as a consequence of normal cognitive development, there is proof that MC can likewise be developed through instruction and teaching.

This was evident also from my findings, in which those students majoring in art education and special education also admitted that they acquired planning and evaluating skills through some other modules such as the general modules (courses that all of the University students from all departments study in the first year) and through educational modules, in which students were engaged in activities that required planning and evaluating, i.e. the Special Teaching Methods module. This suggests that, in art education and special education classrooms there was no specific instruction or teaching concerning the development of planning, monitoring, and evaluating skills, which had been given to the students in these two departments.

In contrast, students from the kindergarten department expressed the belief that teaching activities and assignments in their department had fostered their ability to plan and evaluate. I hold that this showed the significant role that lecturers could play regarding the encouragement or discouragement of the development of these skills. Students further highlighted another interesting point, where a student participant associated their ability to plan and evaluate to continuous practice of these skills/activities. For example, a student claimed, "As my colleague said, I feel planning has become easier for us because of the courses that required us to plan a full activity; it has become easier for us to plan an activity with its goals and strategies". Thus, I suggest as a researcher and lecturer that when we develop MS (planning, monitoring, evaluating), we should

bear in mind that practicing this process should be ongoing. This matches Veenman, Van Hout-Wolters, and Afflerbach's (2006) recommendation of long-term and continuous training to ensure the maintained and smooth implementation of metacognitive activity as one of the essential rules for successful metacognitive instruction. Similarly, Peteranetz (2014) argued that the gaining of metacognitive knowledge and skills is a prolonged operation, and any efforts to promote MC should continue over time.

At this point, it is worth noting that students' responses revolved around regular planning, monitoring, and evaluating skills. Student participants lacked knowledge of MC as well as MS. For instance, when I asked them to provide examples related to the planning activity they had done, most of them focused on the parts that should be included in the plan, rather than how they think about the plan or process it. I also attended some micro-teaching and presentation sessions, and I noticed that the student who presented was not asked to reflect on her plan or performance. She was also not engaged in the evaluation process. She acted as a passive listener while she was receiving comments from her lecturer and classmates.

Furthermore, I identified that the evaluation criteria that students had been taught did not include thinking or metacognition or higher order thinking. For example, some of these criteria that appeared from the observations and student interviews touched on the student's personal characteristics', i.e. her voice (high or low), and her confidence; some focused on content transmission, but none on thought processes. In art education, the evaluation was based on technical criteria such as project balance, design elements, and the professionalism of the work. Another example, when I asked an art student how she benefitted from the evaluation experience, she replied 'I became able to recognise the mistakes.' This shows the focus on correcting the product, rather than thinking about the process.

To conclude, findings from student responses showed that MS are not generally promoted or practiced in the lecture rooms in the three departments. However, students recognised the value these could have. Thus, there is a necessity for MC/MS to be considered in the teaching and learning process.

5.4 Impediments or Challenges to the Development of Metacognition in Higher Education

The fourth research question explored *'the perceived impediments, regarding the promotion of metacognition in the university setting from the lecturers' and students' perspectives'*. Lecturers and undergraduate students highlighted several possible challenges that limit the development of MC in the context of HE in KSA. Both lecturers and students remarked on some issues related mostly to the University, lecturers, and students as primary challenges. Some of these limitations were discussed earlier in this chapter such as the absence of MC in the University/college guidelines (see section 5.2), and lack of promotion of MC as discussed earlier (section 5.3). In what follows, I discuss further potential challenges and impediments not already revealed above, including problems within the University's centralised structures, and students' lack of motivation to learn new approaches.

5.4.1 University: Isolationism

Interestingly, isolationism among the University's structures appeared to be one of the impediments that limit the promotion of students' MC. This conclusion derives from a lecturer participant's claim that there is a high emphasis on administrative aspects, more than students, who should be the priorities of any educational system. I deduce this emphasis results from the fact that the University's systematic structure works in an autonomous way, and therefore, lecturers might lose the interaction and cooperation with the academic programmes in the University if they neglect their administration. Hoggart et al. (1982) cited in Knapper and Cropley (2000) pointed out that, generally speaking university "departments suffer as a result of their status as separate units outside the regular academic programmes" (p. 65). Similarly, Kuhn and Dean (2004) stated, "Academics pursue their agendas isolated from the demands of the classroom" (p. 268). This statement confirms that there is a separation between the University instructions and what is needed in the curriculum and in the lecture rooms.

Also I would argue that this isolationism exists at different levels in the University, for example, among departments in the same college as well as

within departments as each lecturer works by her own. I developed this assumption based on my personal experience as a lecturer at this college of education. Moreover, evidence of this isolationism and autonomy was reflected in the findings that indicated that lecturers at all three departments (namely kindergarten, special education and art education) did not know that students already study MC as part of a 'Thinking Skills' module, which is taught by the education department at the same college. This shows the isolationism and autonomy between departments in the same college.

I believe this might be related to, firstly, lecturers' overload of teaching and academic and administrative responsibilities that do not allow them time to find out what is taught to students by other departments. This point of view is in line with Alwasal and Alhadlaq (2012) stating faculty are overworked with student advising and heavy teaching loads. This indicates how time constraints can be an impediment to lecturers' engaging with, understanding, and utilising new ideas.

Secondly, another possible reason I perceive for isolationism might be the limited call for interaction between the departments; and the competitive nature of some individuals. This implies that some people tend to compete rather than cooperate. For example, in this study, none of the lecturer participants suggested interaction between departments or between lecturers as an approach to incorporating MC in the university. Similar claims were reported by Niemi (2002) in which student teachers participants criticised teacher educators for lacking the abilities to co-operate with student teachers or with their colleagues. Thus I suggest isolationism at the University, college or department levels would result in each party focusing on its own priorities and losing sight of the overall goals of the University. This shows how a culture of isolated work practices could be a barrier to the uptake of incorporating MC and MS in teacher education.

5.4.2 Centralisation and Lack of Flexibility

Another interesting point that emerged from the findings was the lack of flexibility given to lecturers because of the University's strict system such as

those obligations relating to curriculum and exams. Findings indicated that the University system is very strict and lecturers cannot deviate from it or bypass it. Thus, I deduce this might negatively affect creativity or the introduction of new initiatives such as MC. This finding matches Knapper and Cropley (2000), who stated innovative teaching practices face considerable obstacles to their implementation, especially if they do not mesh with administrative arrangements. In a like vein, Georghiades (2004) identified that some teachers who might be familiar with MC might nevertheless not have the authority to introduce it into the curriculum, or might simply lack the time to allocate to teaching MC. Saudi scholar Alnahdi, (2014) expressed the belief that currently, teachers lose their autonomy because of standardised tests and goals that do not leave margin for innovation or flexibility; and that this in turn affects negatively on professional motivation. These previous assumptions could be applied to all educators including the University's lecturers as well as to any innovative or new thoughts like MC.

In this context, I suggest that a real problem might be the centralisation that controls the educational process and other aspects in the University. In this respect, Darandari et al. (2009) claimed that the majority of higher education facilities in KSA have centralised operations. Under this system, the monitoring of quality is prioritised, using a top-down, management-style approach. Additionally, the authority in KSA at all educational levels might not allow wide flexibility to ensure achieving goals, as some educators might lack a sense of responsibility and thus, it is necessary to impose a strict system on them because of difficulty in ensuring the level of application from them.

As initiative is not encouraged in lecturers, in my experience they follow the system, even though they believe or predict that it would not lead to graduating metacognitive learners or lifelong learners. In this way, Niemi (2002) described the situation as a game, suggestion that teachers and students are playing a game: although they see the system as irrelevant or meaningless, they behave according to the system and follow the rules of the "game". (p.777). Moreover, I hold that the strict authority and limitations might prevent lecturers from coming up with new initiatives, cooperating, or sharing their developmental thoughts with the authorities in the University or with each other.

Therefore, I believe there is a necessity for less centralisation. In this respect, Darandari et al. (2009) argued that decentralised systems support quality assurance. They delegate decision-making power and monitoring duties to teachers, researchers, students and administrators, which allows for greater and swifter quality control. Further, I contend there is a need to raise lecturers' sense of responsibility towards their actual and expected role, although acquiring this might be difficult. Saudi scholar Altyar (2003) suggested that teacher responsibility is problematic; she claimed that teaching or ensuring or developing someone's responsibility is a difficult task because of such sense of responsibility resulting from the accumulation of values and culture over generations (cited in Alnahdi, 2014).

5.4.3 Lecturers: Traditional Teaching Style

Lecturer and student participants claimed that traditional teaching methods of dictating facts is the common teaching practice in the lecture rooms. For example, students reported that poor teaching methods (i.e. lecturing and reading) were used to teach the Thinking Skills module, as well as most courses in the University. I deduce these teaching strategies did not support the enhancement of students' MC/MS because it does not engage them in thinking.

This point of view was confirmed by Abu-Latifa (2015) who attributed students' average and low level of MC in a COE in KSA to the traditional teaching methods that are usually applied by the faculty members. Focusing on content transmission and passing the exam might be a reason, as some student participants stated that the most important thing for some lecturers is that the students memorise and recall facts in the exam.

This was also evident from interviews with lecturers and lecture room observations, in which I noticed that lecturers in the three departments were relying mostly on the lecturing method to present their lectures. Lecturers and students involved in the study expressed the belief that traditional teaching methods are one of the potential factors that discourage the enhancement of MC and MS.

I attribute lecturers' preferences to utilise traditional or rote-teaching methods more than active or engaging methods to the fact that the former would be easier as it does not require much preparation or time compared to active teaching methods (Niemi, 2002). Alwasal and Alhadlaq (2012) argue that lecturers in Saudi universities are in favour of traditional teaching style because it reduces the amount of time needed for lesson planning, especially in those subject content heavy courses that involve large amounts of information as well as large numbers of students.

Furthermore, I suggest that some lecturers might tend to utilise traditional teaching methods such as lecturing because they do not have an educational background or pedagogical knowledge, as I observed of some lecturer participants in this study. Thus, traditional teaching methods appeared to be the only option available to them. This matches Alwasal and Alhadlaq (2012) argument that, at many Saudi universities, the majority of faculty members have not been provided with any training in teaching that would familiarise them or introduce them to teaching methods other than the lecture method. Similarly, Niemi (2002) pointed out that student teachers in his study highlighted unqualified teacher educators as one of the main causes of a passive learning culture.

The emphasis on traditional teaching style appears to be a common condemnation of the Saudi education system. For example, Prokop (2003) criticised the emphasis on rote learning in KSA. He added that many Saudi professors and students remonstrate that there is less emphasis on creative and analytical thinking.

As a result, I argue that emphasis on traditional teaching methods leads to:
- A 'banking' model of education (Freire, 1970) and traditional teacher-centre classes
- Entrenching students' traditional learning style

With respect to the 'banking' model of education, Hamdan (2014) pointed out "the Saudi education system manifests many aspects of the banking system of education" (p. 204). 'Banking model' is a term first developed by Paulo Freire (1968) to describe traditional pedagogy. Freire (1970) characterised traditional teaching as "an act of depositing", with teachers as the depositor and students

merely as the depositories (p. 71). He added that this banking concept of education limits students' involvement to receiving and storing deposits. I would argue this is not the desirable goal in education in KSA in the current age.

In KSA, in my experience, the traditional teacher-centred class is predominant, in which the educator acts as the knowledge 'sender' and the student is the 'receiver' of this knowledge. This matches Alam's (2013) view that in teacher-centred classes, knowledge is transferred from one side only from the teacher to the student. In KSA's HE phase, the situation is evident in Alwasal and Alhadlaq's (2012) claim that lecturer-based teaching is the "standard mode of instruction" in KSA; student-centred approaches to teaching are lacking on many campuses (p. 82). Resultantly, I conclude this means that traditional teaching methods pose an entrenched challenge to adding MC to HE in KSA.

Hence, I suggest further active teaching methods like metacognitive pedagogies should be applied in the class/lecture rooms. In this study, lecturer and student participants valued a variety of pedagogies that would encourage the application, teaching and promotion of MC/MS. For instance, discussion and dialogue, problem-solving, the KWL strategy (K-What we know; W-What we want to find out; L-What we learned and still need to learn) (Ogle, 1986), prompting, group work/cooperative learning, the self-questioning and questioning method, the self-learning method, micro-teaching, role-play, explicit/implicit instructions, modelling, practical application, brainstorming, and reading. Although lecturer participants appreciated the aforementioned strategies to teach MC/MS, they did not elaborate on how these strategies would support the application and promotion of MC in the lecture rooms. I believe this might be related to the fact that they lack knowledge and skills about how to apply them. In a like vein, Hartman (2001b) stated:

> … teachers are likely to have *inert* knowledge about teaching (and learning). Teacher education commonly provides teachers with a variety of classroom methods, but doesn't always ensure teachers understand when, why, and how to use them. As a result, much of what teachers have learned may remain inert or inactive, due to lack of knowledge of the contexts and procedures for using these methods (Hartman, 2001b, p. 161).

Furthermore, I noticed lecturers did not show much tendency to use the above-mentioned metacognitive pedagogies. Similarly, Wilson and Bai's (2010)

findings, highlighted that subjects demonstrated a high level of comprehension when it came to the core essentials for education informed by MC, though there tended to be a focus, in the classroom, on teaching in ways which did not address or encourage MC.

The aforementioned teaching approaches aligned with those reported in research on teaching in general or teaching of MC in particular. For example, the college teachers in Wen's (2012) study highlighted 15 metacognitive teaching strategies including: thinking aloud, reciprocal teaching, videotaping/tape recorder, problem solving, asking to think, mapping concept, presenting, writing, direct instruction, role-modelling, journal, discussion, reading books, coaching, and questioning, most of which involve interaction, thinking, dialogue and discussion. In the same vein, Freire's (1970) suggestion, that through dialogue, the dyadic 'teacher-of-the students' and 'students-of-the-teacher' divide cease to exist, and a new term emerges: "teacher student with student-teachers" (p. 80). Hence, I developed the belief that knowledge and skills acquisition should be a constructivist and sharing process that is built on the dialogue and exchange of thoughts between teachers and students and between students. Building the culture of sharing and interaction might engender practice that student teachers adopt and apply with their own students in the future.

Conversely, I posit the emphasis on traditional teaching style or banking model of education would affect negatively students' leaning. Under this prevalent approach of teaching, traditional learning such as memorising/remembering is stressed, whereas thinking is neglected. Alam (2013) described the task of the teacher traditionally as to "fill" the students with the content of his narration. However, this leads students to memorise mechanically, rather than empowering them to think critically (p. 27).

Moreover, within this traditional approach, based on my experience, I propose the students might come to believe that they are unable to think, because they are used to depending on the teacher to do the thinking for them. Freire (1970) described this situation whereby "the teacher thinks and the students … [are] thought about" (p. 73). According to Alam (2013) traditional pedagogy transforms students into passive objective because it controls thinking and

reduces their critical and creative powers. This point of view could be applied for all types of thinking including MC, for example, Yusri, Rahimi, Shah, and Wah (2013) found that students depend more on memorising, and according to the authors, this proved that the usage of metacognitive and cognitive strategies was not encouraged among students.

Traditional pedagogy does not challenge students' thinking and thinking about their thinking. Students' perceptions of themselves as passive learners might affect them negatively personally and socially because they can become dependent in all aspects of life. Freire (1970) suggests that the effort put into holding on to information given to them can translate into decreased cognitive awareness. This results in them interacting with the world less independently and earnestly, less understanding their place as potential change-makers. Passive engagement will only lead to passive living, by which they cannot see potential change or possibility, nor can they perceive other ways of thinking (Freire, 1970). Thus, a student should be educated to know that s/he has her/his own thoughts and perceptions, and the teacher's role is to facilitate and stimulate their thinking, not to impose his or her own ideas or thoughts on them (Alam, 2013). Hence, I advance there is a necessity to teach and encourage students to be metacognitive, and facilitate all resources, materials and instructional environments that would help in building their metacognitive abilities.

To conclude, one cannot call for the full abandonment of traditional teaching methods because it might be useful for some tasks, i.e. one can learn unfamiliar words or concepts or definitions by applying rote memorisation (Ricardo, 2001). However, I maintain that traditional methods should not be the only pedagogy utilised in the lecture rooms, as participants reported that the lecturing method in particular is the weakest aspect of the university's work, and this weakness is in fact responsible for the carelessness or apathy of some university students (Prokhovnik, 1982). Hence, I argue more focus on metacognitive pedagogies that engage students in the learning, teaching, thinking and metacognitive processes are required. Indeed, Saudi universities are under increased pressure to enhance curricula and teaching practices to prepare students with job-ready skills upon graduation (Alwasal & Alhadlaq, 2012), for example lifelong skills such as MC. Furthermore, there should be a focus on the

pedagogies and activities that create cooperative and interaction contexts in the lecture rooms between the lecturer and students as well as between students.

5.4.4 Lack of Motivation

Findings from lecturer and student participants suggested that students' lack of motivation might limit the enhancement of MC in HE in KSA. For example, a lecturer put forward the following argument: "If a student does not have the desire, how you could help her to use metacognitive skills to achieve her goals?" Similarly, Niemi (2002) linked students' weak MS to emotional problems and their lack of motivation and initiative. On a related note, Zhang and Seepho (2013) pointed out that there are many factors that have an impact on the effectiveness of metacognitive strategy use, such as awareness of these strategies, cognitive factors, confidence and, critically, motivation.

According to lecturer and student participants, the students are used to rote learning and expect it and therefore lack motivation to learn differently. I infer that students brought up as dependent learners are used to being fed with information by the teachers. For example, they did not used to think or to evaluate themselves or to be part of knowledge's construction or learn how to obtain knowledge by themselves or by interaction or cooperation with others. According to Alwasal and Alhadlaq (2012), Saudi students have commonly spent twelve years of almost entirely 'spoon feeding' passive learning in schools before coming to university. Thus, they expect that information should be ready for them.

This matches my findings in which a lecturer participant claimed that it is difficult to change what the students used to do for 12 years. In this regard, Niemi (2002) highlighted the earlier learning experiences of the student teachers' as one obstacle that limits motivation for active learning including MS. He further suggested that students were used to being given simple tasks and having their learning regulated by their teacher. They were not empowered to develop their own style or to reflect on their learning. I consider this means that students would not make any effort to learn, to think, or to judge and question their learning and thinking.

Students' lack of motivation, on the one hand, might lead students to resist MC and not accept it because they do not want to think. They are used to depending heavily on memorisation and thus their attitude to learning in general is superficial (Yusuff, 2015). Alwasal and Alhadlaq (2012) suggest one reason Saudi students prefer the lecture method is it is the only method to which they have been exposed. Similarly, Niemi (2002) found that some student teachers did not have motivation to develop themselves. They were further unsure if they wanted to be a teacher or commit to their studies. He concluded that this reflected on the study culture. The superficial attitude to learning as well as passive learning style are likely to contribute to poor development of the student's skills at managing and monitoring his/her own learning. Thus, from my teaching experience, I suggest that the student will be lacking in commitment to actively managing his/her own learning (Allison, 2006).

Furthermore, findings emerged from lecturer and student interviews which suggested that students who lack motivation are mostly aimed at graduation and getting certificates only. This agrees with Niemi's (2002) finding in which some student teachers complained that their peers were motivated only by credits and certificates rather than to learn valuable skills. In addition, students' lack of motivation to accept new approaches i.e. MC might relate to their expectation of the occupation opportunities after graduation. As I noted earlier there is a lack of employment opportunities currently in KSA in the governmental section. Thus, I infer students might focus only on making a minimum effort to graduate and get the certificate because they are unsure whether they will get a job or not.

Moreover, I believe even in the private sector, newly qualified teachers might not be employed because it is believed that university graduates are not trained adequately. On this topic, Alwasal and Alhadlaq (2012) outlined that in KSA, "the growing private sector resists employing graduates from many academic departments because, according to business leaders, they do not have sufficient skills required to work in the private sector" (p. 82). Whereas, students with high expectations would set for themselves challenging goals and consider alternative strategies and approaches, trying them and applying as much effort as needed to succeed (Hoy, 2004). Hoy's point of view matches a lecturer

participant's claim that it is easy to teach MC to students who already have the desire to learn.

On the other hand, findings from interviews with students and lecturers suggested that students' lack motivation might have a negative impact on lecturers' interest to use or teach MC to students. I suggest this implies that lecturers may be reluctant to expend efforts to develop students' MS. My findings are in line with those of Prokhovnik (1982) who suggested that university teachers know that their students are satisfied with the traditional way of learning and teaching or with their role as passive learners because it is less effort to commit information to short-term memory and regurgitate it in an exam than to reinforce information, to truly understand it; but only the latter is useful learning. Hence, students may not interact with MC and would not accept it. Sternberg (1998) confirmed this point of view claiming students have become comfortable and pleased with their mindless and passive approach to learning, and thus, they might consider metacognitive instruction as irrelevant to their learning.

Findings emerged from lecturer interviews which suggested that there is a relationship between students' motivation and their academic achievement levels. I therefore consider students with high academic levels would accept MC more than those with low academic level, because they have higher motivation for learning. This agrees with Al-Zoubi's (2013) findings that Saudi students with high academic levels had more metacognitive abilities. He attributed this to their high level of perseverance and ambition as well as their desire to learn, which distinguished them from other students. In the same vein, Vrieling, Bastiaens and Stijnen (2012) contended more motivated students might use cognitive and metacognitive strategies more effectively. This shows that more motivated students are more receptive to MC and MS.

The issue of motivation was also addressed from the lecturers' side; some lecturers might not have particular motivation or interest in developing their students' ability to think about their thinking. My explanation for this point is that, firstly, lecturers might see their teaching task as delivering subject content only, and not in teaching thinking skills. This is consistent with Page's (1984) argument that among teachers in HE there is a lack of willingness of many to

learn about how students learn. Secondly, I assume that some lecturers might be worried about adopting or applying new approaches to learning like metacognition because it might affect their position in the lecture room. For instance, a lecturer participant stated that she sometimes allows the student to evaluate herself, but she admitted that she controls this process because she believes that the students are unlikely to apply an objective evaluation. In a like vein, Kremer-Hayon and Tillema (1999) reported that many practising educators were worried about decreasing and shifting their role from monopolising knowledge providing.

Thus, there is a need to raise lecturers' and students' motivation to be metacognitive. Khan (2011) outlined that it is true that without any motivation nothing can be approached or done. Similarly, Zhang and Seepho (2013) outlined the necessity to consider psychological factors such as belief, confidence, perception and motivation when conducting metacognitive training, to ensure the use of the strategies in an effective way. Regarding this, I would suggest that it is necessary to create a learning context that could help in changing lecturers' and students' attitudes towards teaching and learning, encourage the development of MC and facilitate the culture of self-regulation, self-reflection and self-evaluation.

Furthermore, I contend there is a need to consider affordance theory (Gibson, 1986) as an approach to raise students' and lecturers' motivations for MC. According to Tanner and Jones (2000), affordance theory considers the impact that events within a teaching environment can have on the values and practices that student teachers take in. For example, a teacher can facilitate students' knowledge and skill acquisition or limit it (Watson, 2003). This means that lecturers' awareness and promotion of MC in the learning environment could be passed on by affordance to students in the same learning environment. From my own study, some student participants outlined there is a need to increase lecturers' and students' awareness of the need to acquire MC, and they claimed that, as a result, they would accept it. From my own teaching experience, I conclude that a learning environment in which lecturer and students are receptive to MC because of the perceived benefits they can derive from it is a learning environment which might promote MC.

254

The adoption of affordance theory might address the uncertainty regarding the benefits of MC that was evident from some lecturer participants. For example, a lecturer participant raised the question: "How will employing metacognitive thinking in the course affect me?" She elaborated "I studied without [metacognition] and graduated and had no problem". Therefore, I would argue that both lecturers and students should be informed about why and how MC might positively affect them. This could create learning environments receptive to MC. Otherwise, they might resist it.

Veenman et al. (2006) pointed out that one of the primary rules for successful metacognitive instruction is introducing the learners to the advantage of metacognitive activities to encourage them to spend the initial efforts. As a simple example of this, Alwasal and Alhadlaq (2012) stated that some Saudi teachers in higher education remain unconvinced that methods of student engagement and active learning strategies will work in their classroom; and thus, they might not apply them. Indeed, Khan (2011) opines that the learning barriers would exist, if the learner does not recognise the need for the change in knowledge or behaviour. This confirms the necessity to raise students' and lecturers' motivations if we are hoping to implant MC in Saudi HE.

5.4.5   Lecturers and Students: Expectations of One Another's Role

Other challenges that were reported in my findings were lecturers' expectations of students' abilities, and students' expectations of the lecturers' role. I detected that they have divergent expectations of each other. This is similar to Niemi (2002) who found that there are so many contradictory and varying expectations of the role of students and teachers among teachers, students and parents. For instance, my findings from lecturers' and students' interviews showed that students are very dependent learners; and that they do not want to think, they want things to be ready for them and to be told what to do. This means that they might not accept MC because they are not used to having to work hard or think about their thinking.

My findings also showed that lecturer participants assume that the students come with sufficient skills and, thus, the lecturer's role is only to deliver

knowledge related to the subject area. Other lecturers believed that students already have MS but they do not use them. This implies that students are expected to develop various skills i.e. learning and thinking skills through general education schools, and the preparatory year in the University. In this regard, I would argue that although the students in the COE studied MC and MS, we cannot be sure that they understand them and are able to utilise them, because of several factors like rote learning culture and the absence of practice as I discussed above.

Furthermore, we cannot ensure that they will apply MS without being requested to do so. In this vein, Hartman and Sternberg (1993) and Hartman (2001a) argued there is an important aspect of learning that is often neglected, which is that students have the required skills and knowledge for handling complex tasks, however, they do not use them. Thus, the skills will remain inert. The authors provided reasoning claiming that students might not be confident or are not requested to apply their skills, or sometimes students do not realise that the situation or given task calls for the use of particular skills. The authors further explained that this implies that students might have some procedural and declarative knowledge, but not the conditional knowledge needed to recognise when and why to apply the skills. I would further add that students might not recognise that they have these skills or that they have the ability to apply them, as a student participant claimed.

I also acknowledge a number of social factors which effect a student's learning (Sungur & Senler, 2009). There may be a disparity between the education system and the child's personal ambitions. Some students assumed that lecturers are responsible for teaching them everything and providing them with skills. Alwasal and Alhadlaq (2012) asserted that students in the education system of KSA tend to avoid actively engaging in their own learning process, as they consider this the responsibility of the educator. This means they do not take responsibility for their own academic success or lack thereof.

Accordingly, from my experience and from lecturer interviews, I infer that students might complain and not accept tasks that require more than memorisation or which require thinking or constructing knowledge by themselves or by working with others. In this context, Niemi (2002) found that

some student teachers believe that others of their peers had passive learning styles from school. Therefore, they are dependent and expect teachers to instruct them. This makes them resistant to other methods (Collier, 1985). This claim was evident from lecturer and student interviews in my study, in which a lecturer participant stated that the students, in particular those with less inclination to learn, might not accept holding the responsibility for their learning. She claimed that, "If you say to them 'I will teach you how to learn' directly, they will not accept that, and would say 'You are not going to teach us how to learn, are you?'". A student participant justified this resistance arguing that students might not accept MC because it was not part of the lecture room activities, and most lecturers do not apply it. Therefore, "the students would say: why do you want to change what we are used to?" This shows resistance on an emotional level to new methods such as MC.

I agree with Niemi (2002), who suggested that each group would act or behave according to its belief about the other's abilities and roles, and thus the learning and teaching culture or process remains unchanged. Therefore, I argue that it is necessary to inform students about what is expected from them as a university student; how they should acquire knowledge and skills, and how to plan, manage, regulate and evaluate their learning and thinking. In this respect, Baird (1988) claimed that problems in teaching and learning are associated with students' lack of responsibility and control over their own learning. Baird's point of view matches my findings in which lecturer and student participants claimed that students lack the sense of responsibility for their learning. For example, a student participant pointed out the students "do not want to learn more than the lecture content; they do not want to know about the way their thinking works and such". Thus, according to lecturer participants the students should be responsible for their learning and the teacher role is complementary. Similarly, Nneji (2002) claimed that university students should have the responsibility to determine their objectives and select and pursue strategies that would help them to achieve their goals. In contrast, a student participant said "the responsibility is distributed between the student and the professor, but the professor has more responsibility". This again emphasises how Saudi students perceive the lecturer's role.

In consequence, I suggest that lecturers should consider students' actual educational backgrounds and abilities and work towards improving and developing it to a higher level. For example, the level of lifelong or metacognitive learners. In this vein, Bozkurt (2013) argued, teachers should be knowledgeable of which learning style that their students have. Similar arguments could be made with respect to students' cognitive skills. Thus, I would argue that educators should be aware of their students' cognitive skills, such as remembering, comprehension, application, analysis, synthesis, and evaluation. In this study, although most student participants highlighted comprehension/understanding as their most preferred approach, findings from lecturer interviews indicated that memorisation was the primary cognitive skill used, and they expressed the belief that memorisation is the major problem associated with students' learning. Lecturers extensively reported that the students depend on memorisation, and that they encourage their students to change this way of learning or studying by suggesting further approaches i.e. comprehension/understanding.

Furthermore, I consider there is a need to connect high schools and the University, to agree on the level of high school graduates' skills. Some lecturer and student participants claimed that the students developed their poor approach to learning from general education stages, in particular at high school. In this regard, Niemi (2002) indicated the isolation of schools and teacher education in the community; he explained that schools have their own cultures and their own traditions of teacher education. Therefore, I would suggest that the interaction and communication between both schools and the University and schools and society would enable school graduates to cope with the University system and demands as well as society's. Most Saudi university faculty believe that public school graduates are not properly prepared for university level study (Alwasal & Alhadlaq, 2012), and therefore, most Saudi universities established the preparatory year in order to help students to cope with studying at university level (See Chapter One). Overcoming this legacy of maladaptive learning approaches from high school could help encourage motivated and metacognitive learners.

5.4.6 Individual Differences

Kruger and Dunning (1999) argued that individuals who lack MS are also less competent, and individual differences play a considerable role on students' acquisition of and application of such skills. Individual differences have impacts on all teaching. My findings indicated individual differences among students as one factor that might hinder the application or development of students' MC. For example, findings from student participants revealed that students differ from each other and thus it would be difficult for the lecturer to meet all of these needs. Considering individual differences as a challenge might also be associated with several factors such as students' large numbers, and lecturers' limited time. According to the student participants, some students have high mental and skill levels, and would need little effort or direction to understand and apply MC. Some other students, however, have average or low mental and skill levels, hence they need more time and effort to acquire MC and MS. Accordingly, lecturers might not be able to meet these differences due to limited time.

As such, it seems that lecturers might find that applying or teaching MC and MS would require too much time. Therefore, they would not be able to cover or teach MC on top of the huge amount of subject content that they must teach. Kuhn and Dean (2004) argue that teachers are under pressure to make learning time-efficient rather than effective, and are required to ensure that all students learn content that is required of them, according to the curriculum, in the allocated time (Niemi, 2002). Niemi (2002) argues that teaching staff felt enormous responsibility to teach all the material in a short space of time, transmitting a bloated curriculum with a focus on quantity of information. This has been observed in Saudi schools, in which the bulk of teaching is rushed, the teachers race to fit in the full curriculum, in what could be considered too little time. This leaves little room for the inclusion of tasks that engage students in thinking (Alwasal & Alhadiaq, 2012), such as critical thinking and metacognitive thought. Thus, I argue that lecturers should be qualified, trained and equipped with tools that enable them to integrate and teach MC, taking into account time constraints and students' individual differences.

5.4.7 Metacognition as a Domain-Specific Subject

Another interesting finding that emerged from lecturer interviews that might negatively affect the application or promotion of MC in HE in KSA was the belief of some that MC is domain-specific. This point of view matches an issue that is still under debate in MC literature, which is whether MC is task and domain specific or rather general by nature (Veenman et al, 2006). According to Veenman and his colleagues (2006), "General metacognition may be instructed concurrently in different learning situations and may be expected to transfer to new ones, whereas specific metacognition has to be taught for each task or domain separately" (p. 7).

Findings from lecturer interviews suggested that MC is best suited to specific subject areas, and thus lecturers might not encourage or adopt it because they believe it does not fit with their area of specialist teaching. For example, educational and psychological subjects (i.e. Special Teaching Methods, Cognitive Development) were seen as most suited to the teaching of MC. I propose that educational courses should involve the teaching of processes such as planning and evaluating. The Cognitive Development course involves teaching thinking skills including self-awareness which comprise part of MC, and thus, this could explain their belief that MC is more suited to this subject as self-awareness is a part of MC (Flavell, 1979).

However, lecture observations also suggested that MC can be domain-general and applied to different subject area. According to Hartman (2001a) "Some metacognition is domain-general, applying across subjects and situations; and some is domain-specific, applying selectively to particular subjects and situations" (p. 2). This is in line with Veenman and Verheij (2003) and Veenman, Wilhelm, and Beishuizen (2004) whose studies supported the generality of MS. I would further suggest that the application of MS might differ to some extent in each subject area. Furthermore, metacognitive sub-skills might differ from one task/subject to another. This implies that planning skills for example could be applied to various tasks and subject; however, the sub-skills involved, for example, might differ from one subject to another.

Therefore, I suggest lecturers should be qualified and trained in a way that enables them to integrate and teach MC, taking into account the nature of the

curriculum/subject/task. Also, they should be able to select the significant knowledge and skills of the content and to teach them alongside MC. Otherwise, student teachers will graduate holding the same old traditions of learning and thinking and continue following them and modelling them. Accordingly, new generations of graduates from high schools come to university with a low learning and thinking ability or capacity (Niemi, 2002).

5.5 Incorporating Metacognition in Higher Education in Saudi Arabia

The fifth research question explored '*How metacognition might be incorporated and fostered in higher education in KSA from the lecturer and student perspectives'.* Before presenting lecturers' and students' perceptions concerning incorporating MC in HE in KSA, it might be worthwhile to highlight the benefits of MC from the perspectives of them.

Both lecturers and undergraduate students acknowledged the value of MC. They believed that metacognitive benefits are continuous and that it would have a positive impact on students' everyday life as well as careers. They further went into detail stating that MC would develop students' critical thinking, logical thinking, self-confidence, self-awareness, self-improvement, self-evaluating and self-direction. Additionally, to develop problem solving, raise a sense of self-responsibility, and save an individual time. Similarly, the findings of a 2012 study by Wen suggests that educators at college level are aware of the value of MC in teaching and learning, i.e. developing students as independent learners. In the current study, lecturer and student participants were in favour of developing MC in HE in KSA. An additional value to incorporating MC in HE in KSA is its impact on human development, which was also identified by three lecturer participants. In what follows, I discuss some approaches that may contribute to facilitating incorporating of MC in HE in KSA.

5.5.1 Metacognition and Community of Practice

Community of practice whether at the department level or at the lecture room level were recognised by student participants as one way which could contribute to the incorporation of MC in HE, in addition to raising the quality of education. Eckert and McConnell-Ginet (1992) defined community of practice as, "an aggregate of people who come together around mutual engagement in an endeavor. Ways of doing things, ways of talking, beliefs, values, power relations-in short, practices-emerge in the course of this mutual endeavour" (p. 464). Wen (2012) has also put forward that incorporating MS into teacher training will enhance understanding for both teachers and students; and I would add that MC would enhance the quality of learning and teaching in education in general. Baird (1988) expressed the belief that achieving quality demands both the objectives of education as well as the process by which these objectives can be achieved, be improved; and thus, there might be demand for considerable change at two levels; the individual level and the system level to improve the quality of education.

I suggest creating a community of practice was highlighted as a way to overcome one of the criticisms of Saudi educational culture, which is the lack of cooperation and too much emphasis on isolation and competition. In this respect, Alshammary (1984) asserts that the Saudi education sector contains a high level of competition (cited in Alqahtani, 2011). The competitive culture also results from Saudi families and society that increases the pressure on students to perform well in school, and then they compete in local economies as well as in the larger global economy (Ismail & Hassan, 2012). In the work of Mansour and Alhodithy (2007), it is clear that the educational climate of KSA cannot, as it currently stands, facilitate the inclusion of collaborative learning tasks. Under this type of educational culture, students are likely to struggle in acquiring or constructing knowledge through interaction and cooperation with others. I suggest this in turn would influence the students' abilities to cope with the demands of the 21st century, as a community of practice facilitates learners who can collaborate, co-construct, and make use of the tools, concepts, and processes of the community, and move from peripheral to full participation (Jimenez-Silva & Olson, 2012).

A community of practice, whether at department level or classroom level, would be a significant step towards the encouragement of MC in HE. It would allow

student teachers and lecturers to recognise their MC and to develop it, because the opportunities for an individual to learn how to be metacognitive are affected by learning opportunities or the available environments to do so (Veenman et al., 2006). For example, firstly at the department level, the dean of the department as well as lecturers should set a plan to teach MC, discuss the plan's goals and its executive procedures, procedures of monitoring and evaluating. The second stage is the actual application process. Finally, a discussion and dialogue between lecturers can take place concerning the plan. Through lecturers' reflections about practice and exchange of thoughts within the community of practice, I contend they are likely to engage in MC processes themselves such as monitoring and evaluation. This accords with Horsburgh's (1999) suggestion that official meetings and informal chats between teaching staff when not in the classroom are important. The most notable change arising may be the pedagogical exchange seen between those in the teaching profession as to how best to enhance learning.

I believe an emphasis on MC by the whole department would raise students' awareness of the importance of MC, and its applicability in all subject areas. It further would enable students to transfer knowledge and skills to other situations such as the workplace and lifelong learning, recognising continuing benefits from it. Consequently, students will not forget it. In this regard, Wall (2014) pointed out "A classroom that emphasizes metacognition, … allows time to focus on the learning process, the sharing of thinking about thinking" (p. 3). Therefore, it is necessary to establish a classroom community of practice. In this regard, Sim (2006) argued building communities of practice early in student teachers careers significantly helps them to continually improve. In a classroom community of practice;

> … Students and teachers create communities of practice in which meanings emerge and interpretations abound, if and when they are allowed to think critically and express their needs, concerns, doubts, but also enthusiasm, happiness about one's achievement, pride stemming from an assignment well done or an idea worth developing; communities of practice based on heterarchic principles of distributed responsibility (Stark, 2001, cited in Filipovic & Jovanovic, 2016, p. 1444).

Moreover, the community of practice would offer the opportunities to ensure goals are achieved as those who are involved in it mostly share something that

brings them together. In this regard, Wenger (1998) found inter alia that the co-operative construction of an institution's practice makes it possible to meet its demands.

To sum up, a community of practice approach at the University, college, department, and classroom levels would play a key role in allowing the community members to develop and recognise their own MC as well as others' MC. Hence, this approach should be studied and planned to be beneficial and effective. Moreover, there is a need for "community members to have language, skills, dispositions and values that facilitate articulation of thinking about learning, while also being safe and secure enough for individuals to accept difference and question themselves and others in a constructive way" (Wall, 2014, p. 3-4). In this respect, Baird (1988) suggested continuing collaboration within academic departments and between them and, for example, development centres, should provide strengthened feelings of community, through common aims, culture, and support. Community of practice further should be a continuous process and procedure.

Hence, I suggest that closer co-working across departments, and better application of the college's own MS theory at faculty level might help meet the University's primary goals and increase the quality of its graduates and outcomes. Moreover, the COE represents a subsystem of the university, which in turn is a subsystem of the society. They should interact and cooperate with each other. Thus, creating a University, college, and departments' community of practice might be the first step that the University as a whole structure should take or consider.

5.5.2 Staff Member Development: Training Programmes

Raising lecturers' awareness of and training of MC were evidently necessary from the study findings. Wen (2012) stated that college teachers need to learn more about MS and to learn how to apply them in their own teaching. He further elaborated that a teacher who incorporates MC into their work is one who takes patterns of learning and cognitive methods into consideration, and who knows the potential advantages of introducing students to new ways of approaching

their own learning, while having a comprehensive understanding of metacognitive strategies to improve performance.

Similarly, I assert that training lecturers in MC would further help them to distinguish between theory and practice when teaching and guiding students to utilise MS (Wilson & Bai, 2010). For example, when I was a student teacher, lecturers taught me that different teaching strategy theories exist, but they did not teach me how, where, or when to apply these in practice. Indeed, some lecturer participants expressed that they are willing to learn and disseminate MC. Training lecturers in MC and requiring them to develop it for their students would be a significant step towards the incorporating of MC and developing students as metacognitive learners.

I argue that training lecturers in MC would further enhance the quality of student teacher graduates. Consequently, the new generation in schools would be well educated and equipped for the 21st century. Therefore, an improvement in the Saudi education system would be achieved. Indeed, the most immediate influence on student experience of learning derives from the educators: how they help students to learn and how they teach (Horsburgh, 1999). Memnun (2013) made a similar argument that elementary pre-service teachers' metacognitive awareness and skills would affect their individual success in their professional and educational lives as well as the success of their future students. Zhang and Seepho (2013) claimed teachers could play a significant role in making students aware of and the enhancement of their acquisition and developing of metacognitive strategies.

In Saudi universities, currently, there are increased demands for qualified teaching staff; furthermore, there is a call that university lecturers should apply teaching strategies that improve job skills of graduates. Therefore, many Saudi universities have used HE funding allocated to them to provide lecturer development opportunities in the field of programmes related to learning, teaching, and assessment (Alwasal & Alhadlaq, 2012). This situation was evident in the University in which the current study took place. As a lecturer and a researcher I observed that there are several seminars and workshops to improve the quality of teaching and learning in the University. However, none of them currently relate to MC.

I identify some issues that limit the effectiveness of such seminars and workshops that run in the University in which the current study was conducted. For example, according to some lecturer participants and my own experience these seminars and workshops, particularly those concerning teaching strategies, were focused on theory only. Another important issue was the idea that it is not only knowing about something, but it is more about raising the belief about the importance of it. This again brings to the surface the necessity of considering affordance theory (as mentioned in section 5.4.4 above) when conducting seminars, workshops, or training programmes, as well as when introducing new thoughts. Lecturers need to understand the benefits of acquiring MC to them as well as to their students, which may motivate them to practice and promote it, as my findings demonstrated. MC, so argues Prytula (2012), has recently become a much-discussed element of teacher training, as those who can enlighten students about their own learning process and can understand MC well enough to set relevant tasks for students are better equipped to instil metacognitive awareness in their students.

Hence, I would suggest that staff developers represented by the 'Development and Quality Assurance Deanship' (DQAD) have a role to play in incorporating MC in HE to improve the quality of learning and teaching. According to Georghiades (2004), if MC is going to find its way into classrooms, policy-makers and leaders must find the means to make it so. This matches my findings in which a lecturer participant indicated that the adoption of MC should be based on a full study conducted by the scientific council in the University.

I would suggest then, that DQAD should, firstly, offer lecturers with training programmes of MC. These programmes should be presented by experts in the field; and cover theoretical and practical dimensions of MC; knowledge of cognition and regulation of cognition. Peteranetz's (2014) findings suggested teacher training on MC should contain knowledge about what comprises MC and how teachers can promote it. Moreover, lecturers should be taught how to teach with and for MC; and how to integrate it in the designing of their curriculum and teaching, and in teaching procedures as well as the evaluating of learning performance (Mahdavi & JafarZade, 2014).

Secondly, there is a need for training programmes on pedagogical content knowledge (Shulman, 1986) alongside training on different teaching methods. A sufficient knowledge of pedagogy seems necessary as some lecturers were found to not have teaching qualifications. In this respect, Wen (2012) theorised that the most effective teachers are those who consider each student's methods of learning and have a good knowledge of how they will approach the curriculum. MC, then, is related to this in that MS can make these styles more apparent and enhance current approaches. This requires teachers to have a significant comprehension of MC.

Thirdly, I contend the training programmes should focus on pedagogical understanding of MC. According to Wilson and Bai (2010), the pedagogical understanding of MC refers to the "what" and "why" of teaching, as well as "how" to optimise the application of MC in students (p. 285). In my study, some lecturer participants were unable to describe techniques or procedures that would help to teach MC to students. In contrast, Wilson and Bai (2010) have researched knowledge of MC amongst teachers, finding that there is, generally, a good level of knowledge amongst teacher respondents. However, success does differ; there needs to be a tighter focus on the teaching of MC, through teacher training and in the education system more generally, for MC to be incorporated.

Furthermore, I would suggest that staff developers should consider some procedures to ensure the adoption and application of MC by the University lecturers'. i.e. through establishing a system of accountability that considers quality more than quantity. It is true that the University lecturers are required by the National Commission for Academic Accreditation and Assessment (NCAAA) to provide a course report at the end of each semester, which;

> … must be provided for every course in all departments, must contain descriptions of course objectives, intended learning outcomes for each educational session, and methods of assessment that measure all the required skills students should acquire as a result of taking the course. In addition, a course report must be provided at the end of each academic semester that includes suggestions for improving the course that should be implemented in the next offering of the course (Alwasal & Alhadlaq, 2012, p. 86).

However, some lecturer participants suggested that this tends to be paper filling. In this regard, Horsburgh (1999) argued that quality monitoring is frequently concerned with checking "inputs and outputs", rather than processes and learning outcomes, and may have little to do with genuine teaching (p. 10-11).

5.5.3 University Lecturer as Role Model of Metacognition

Findings suggested that the university lecturer can be a role-model for the enhancement of undergraduate students' MC and MS. The lecturer, through making the process of her own thinking, teaching and learning explicit, can help students' metacognition to develop. In this way, student teachers would be able to understand the lecturer's thinking about thinking and how she went through the whole learning process. In this context, Vrieling et al. (2012) argued the necessity to provide the student teachers with explicit metacognitive instruction. Wall and Hall (2016) pointed out:

> … By talking about the thought process of planning a lesson and the pragmatics of teaching a class then the students got insight into teachers' metacognitive processes in engaging with teaching and learning, and as a result, got a new perspective on their role(s) as learners (Wall & Hall, 2016, p. 415).

According to Wall (2014), when teachers become more explicit about their learning experiences, they encourage the disposition that should undergird professional practice in openly realising the learning process that is inseparable on teaching. I assumed that a lecturer as a role-model was suggested to fill the gap or make the bridge between the theory and practice, as it is extensively reported in the literature that traditional teaching methods have dominated the educational process in KSA in general, and in HE in particular (Abu-Latifa, 2015; Allamnakhrah, 2013; Alwasal & Alhadlaq, 2012; Rugh, 2002).

Traditional teaching styles left the university student graduates lacking the ability to apply the knowledge they studied into practice or into another subject area, or to their everyday life. For example, as a former undergraduate student majoring in Home Economics I studied several scientific modules i.e., Physics, Chemistry, and Biology, as a part of the College of Agricultural and Food

Sciences requirements. However, none of the lecturers of these courses explained how I could link the subject content to Home Economics or to everyday life. Wall (2014) observed that in classes in which the teacher was a role-model, the learners:

> …were able to see associations across many different facets of life, of personal characteristics, tools, skills and abilities which all come together to impact and influence thinking about learning (metacognitive knowledge) and, importantly, they were also seeing the potential to strategically act on these associations (metacognitive skilfulness) (Wall, 2014, p. 4).

Therefore, I support the claim that the college's staff members should be role-models of MC to their students, giving them explicit strategies and procedures about how they apply MC and think metacognitively. In this context, Vrieling et al. (2012) stated that there is a need for teacher trainers to demonstrate MC through set tasks in order for their teacher students to understand the process thoroughly. In this way, teacher training can directly and concretely express its importance, closing the gap between theory and practice. This will, in turn, allow students to engage with MC and apply it.

However, modelling should not focus only on the modelling of the theoretical information or executive process, as my findings showed. This matches Ramsden's (1987) argument that teachers and students tend to visualise learning in terms of content, rather than mental processes. This further may highlight lecturers' lack of metacognitive awareness or uncertainty of its values for students as well as themselves. For example, a lecturer participant showed unwillingness to share her mental or thinking process with the students claiming, "the student will apply what you say to her without questioning". I suggest this narrow perception may relate to the high esteem teachers are given in Saudi culture, as well as the fact that this lecturer does not have any educational training or qualification, and her uncertainty regarding the benefits of MC.

To conclude, I suggest that lecturers should be role-models and explicitly present thinking about thinking and reflection that underpins their processes. Otherwise, students are likely to graduate lacking MC, which would affect them as learners and teachers in the future. In this respect, Ozturk (2016) outlined

that pre-service teachers need from the faculty members an explicit modelling and guidance to be able to learn and teach MC effectively, while lack of modelling and guidance has negative implications. This may have considerable potential effects on pre-service students' future teaching practices and their students' learning outcomes.

5.5.4 Integrating Metacognition within Courses

Instead of only teaching MC as a separate module, findings from lecturer and student participants suggest that the teaching of MC should be integrated within the teaching and instruction of the subject content and be part of classroom activities. In this context, Schelin and Radstrom (2014) argue that MC could be taught indirectly by creating a classroom environment where MS are integrated in our learning/teaching and language. Similarly Veenman and his colleagues (2006) highlighted establishing and integrating metacognitive instruction within the subject content to guarantee connectivity as one of the essential principles to acquire successful metacognitive instruction. I assumed that this proposed approach comes from the belief that teaching MC as a separate module would not enable students to recognise its value, understand it, or apply it into practice or recognise its benefits in different subjects and situations.

Moreover, a student participant claimed that there is a high possibility learning about MC would be forgotten after doing the subject exam, as is the case for other rote learning. Students memorise the information to perform well in the exam and get high grades, but then forget the information when they do not practice it. In like manner, Ismail and Hassan (2012) stated that in Egypt and Saudi Arabia the primary criterion for passing examinations is the students' ability to store and express large amounts of information, rather than to develop the ability to think. This was evident from my findings in which a student participant stated, "Most of the professors give us the syllabus that they usually reduce in size; what is typically required from us is to memorise the syllabus to pass the course". Furthermore, introducing MC to students via seminars or workshops extra to their core courses is not advisable because they might not attend them as the attendance of these activities is optional, as lecturer and student participants confirmed.

Integrating MC and MS should not be a complicated task for lecturers, as a lecturer participant reported. I suggest this could be attributed to the fact that lecturers need to plan, monitor, evaluate and regulate their teaching process and activities and their students' learning anyway. However, they will need to further integrate thinking about thinking in all of these skills. Schelin and Radstrom (2014) pointed out that applying metacognitive strategies when teaching might be one way of encouraging students to develop their capabilities in planning, monitoring and evaluating their thinking/learning process; in sum, develop their abilities in utilising MS. Peteranetz (2014) stated embedded metacognitive instructions allow students to link the metacognitive knowledge and skills to real learning tasks. Therefore, students could understand how MC can assist their performance or work in that context or situation.

However, some university lecturers might not believe in the value of MC. Alwasal and Alhadlaq (2012) argued that for many Middle Eastern professors, replacing traditional lectures with alternative teaching formats might not be an easy task. They further elaborate that making this replacement or shift will require an enthusiasm for teaching and learning, intellectual consideration, and reflection on what type of changes are needed and required in each lecturer's approach to instruction. I suggest this argument could also be applied to MC.

Moreover, integrating MC might not be accepted or desired by some educators, as it could demand further effort and preparation. It also might influence the role of educators and students in the lecture/classroom, which might not be desirable by those lecturers who prefer teacher-centred classes. In this context, Ben-David and Orion (2013) found that teacher participants believed that integrating MC into their teaching leads to a change in students' and teachers' roles, which is not something they always welcome.

Based on my findings, I argue that the student is the primary target of the education process: however, this fact seems to be neglected. In Middle Eastern countries, such as KSA and Egypt, in both HE and pre-HE, there is more focus on what schools/universities and educators should teach rather than what students should learn (Ismail & Hassan, 2012). I add that there is less attention given to how students learn. Therefore, regarding MC, I suggest that educators should adopt approaches that would enhance the development of the student

271

as a metacognitive learner. MC should be taught to the student in a way that enables him/her to recognise, acquire and be aware what it means to be metacognitive theoretically and practically.

At this point, a question might arise, what do lecturers need to do in order to involve MC in their courses? Here, I am in agreement with Butterfield (2012) and Hartman (2001b) that educators should teach metacognitively. This implies that a lecturer should teach with and for MC. In this regard, Hartman (2001b) distinguishes between the two approaches and argues for the most significant of them, claiming, in order for one to employ MC in their teaching, one must use it oneself and attempt to encourage it in others, i.e. the students. There must be, then, a pedagogical MC, awareness of how one is teaching and to what end; this impacts the methods, the content and the level of engagement required in classrooms. MC, ideally, should be present not only during classes, but in any interaction between student and teacher. Teachers may also employ MC to change students' behaviour outside the school setting entirely, changing how they think about their own cognition.

5.5.5 Metacognition and Human Development

Findings emerged from my study suggesting a link between MC and human development. Lecturer participants believed that the teaching of MC would play a vital role in the human development of students. According to the UNESCO's (2005) report, the human development of new generations implies the belief that all adolescents and children, without exception, have the right and the potential to become persons fully equipped for the challenges facing them in their lives in present times.

The report further outlined that the Human Development paradigm is the global outlook that directs our notion of education in the community of the 21st century. This is the faith that the development of a state of a society depends upon the chances given to individuals, so they will fully achieve their potential. In a like vein, Mahmood (2012) stated that, though it may be argued that pursuing education may lead to financial and personal success in the future, its core purpose is to raise human capital by promoting social skills and community

values. Therefore, there has been a call for education to consider and enhance human development (UNESCO, 2005).

One might question, how MC is related to human development, or why those lecturer participants see it as a way of developing students' human development. A lecturer participant stated, "I believe that metacognitive skills are human development", she added, "it would create a human who has durable responsibility, communication skills, is active, and who is able to handle themselves as well as handle teamwork". My study therefore clearly identifies a connection between MS and human development.

The concept of education for human development has changed the way in which schools and universities are considered by governments and the public. Once thought of as places of knowledge, they are increasingly being recognised for their contribution to general skills and personal development in students (UNESCO, 2005). The UNESCO's (2005) report described the act or role of education here, to use the existing skills of students' to aid social development, which will contribute to a more cohesive society in the long run, as they will learn to understand themselves and others more deeply and to live together.

As I mentioned earlier in Chapter Two, MC refers to an individual's awareness or knowledge of his/her cognitive processes and his/her ability to regulate and control them in the learning process (Hartman, 2001b; Schraw & Moshman, 1995; Veenman et al., 2006). Indeed, according to the UNESCO (2005) report:

> … education is the only form of action that can transform potentials into competencies for life. Within this perspective, to act for new generations is to create educational concepts and practices that can generate competencies for people to transform themselves and their realities through the full development of their potentials (UNESCO, 2005, p. 31).

Therefore, I argue that improved MC concerning self-awareness is one important educational concept and practice that would lead to greater human development. It will inform students of their own abilities and how they can benefit from them to make long-term changes in themselves and in the world around them, which is well in line with the concept of education for the human development proposed by the UNESCO.

Indeed, human development is one of KSA's ultimate objectives. In this regard, Achoui (2009) pointed out that the government of KSA is well aware of the present trends at international and national levels that call to respond to emerging challenges, in particular, in the field of human development. Therefore, for KSA to become a developed country, the Saudi government prepared a long-term vision in 2002 (Achoui, 2009). Achoui further states these ideas of human capital and future investment are strictly related, as high levels of human capital are proven to lead to success in economically lucrative industries, such as technological innovation, business, and engineering. KSA's government has made efforts to achieve this vision, e.g., developing a strategy and procedures to improve and reform HE programmes and institutions (Achoui, 2009).

In KSA, human development received considerable attention from the government. For instance, Prince Mohammed bin Salman, the deputy Crown Prince of KSA emphasised the critical role that human development can play, for example, in the education and market labour fields (Algasham, 2016). Achoui (2009) argues that human development should provide a bridge between the school curriculum and that taught in HE, and the demands of industry. He also highlights the competitive nature of today's labour market and the market in general, as innovation, information and critical thinking are essential to success in these areas. This, he argues, should begin in education.

Indeed, the improvement of the quality of KSA's education system is consistently one of the priorities of the Saudi government. Evidence of that can be seen in the 'Saudi vision of 2030', launched by Prince Mohammed bin Salman. According to Al-Zahrani (2017), the Saudi vision for 2030, emphasises the importance of uniting the state and the private sector on the matter of education, as an understanding of what each requires will impact the development of the youth of the country. Teacher training is a core element of this, for example in school placements and university classes. The vision further hopes to bridge the gap between HE output and labour market requirements and invest in education and provide students with the knowledge and skills needed for future jobs (Algasham, 2016).

I assert that MC, therefore, could contribute to the human development of Saudi HE students, as it plays a key role in the development of lifelong learners (Cornford, 2002; Oz, 2015; Watson, 2000). In my view, by developing metacognitive learners, we are likely to reach the desirable level of human development demanded by the country.

5.6 Summary

This chapter discussed the main findings that emerged from the current research study, with reference to existing literature. It addressed the research questions concerning the concept of MC and its practice; the potential challenges limiting the development of it in KSA's HE context, for example, the prevalence of rote learning 'banking' models of teaching; and how to overcome them, for example through lecturers' role-modelling MC and MS and explicitly promoting its many benefits to their students. The discussion was also made with a consideration of the social constructivism perspectives adopted in the study.

6 Chapter Six: Conclusion

6.1 Introduction

In this chapter, I present an overview of the current study, which includes the study objectives, approach, design, data collection and analysis methods, and findings. I further highlight some of the study limitations and challenges. This is followed by an outline of the implications of the study for policy makers as well as educators including heads of departments and lecturers who could play a fundamental role in the teaching and development of metacognition (MC) in higher education (HE) in the Kingdom of Saudi Arabia (KSA). I further point out implication for my professional learning. Finally, I present several proposals for future research in the field of MC.

6.2 An Overview of the Study

This study explored university lecturers' and undergraduate students' perceptions of the presence and promotion of metacognitive skills (MS) in lecturers' teaching practice in the College of Education (COE) at a University in KSA. The study was carried out in three departments namely: kindergarten, special education, and art education. The study objectives were:

- To investigate lecturers' understanding of MC at the COE.
- To find out lecturers' and undergraduate students' perspectives about whether and how lecturers at the COE practise or promote MS in their classroom teaching.
- To highlight the perceived impediments to promoting and applying MC in the university setting from the perceptions of both lecturers and students.
- To highlight the possible efforts that can be made to incorporate and foster MC clearly and effectively in the context of HE in KSA.

In order to address these objectives, I formulated the following research questions:

1. How do lecturers in the COE at a university in KSA understand MC?

2. To what extent do the lecturers promote students' MS during their class sessions from lecturers' perspectives?

3. What are undergraduate students' perceptions of whether and how MS are being promoted at the COE at this university in KSA?

4. What are the perceived impediments, if any, regarding the promotion of MC in the university setting from the lecturer and student perspectives?

5. How can MC be incorporated and fostered in higher education in KSA from the lecturers' and students' perspectives?

To achieve an in-depth understanding of these issues an interpretive approach was utilised together with a case study design. Data were collected through three means: lecture room observations, semi-structured interview, and group interviews. This triangulation of methods provided rich data regarding the application and promotion of MS in lecturers' teaching practice. Data were transcribed, translated, and analysed utilising inductive and deductive practices.

The most significant finding to emerge from this study is that lecturer participants' lack knowledge of MC as well as MS i.e. planning, monitoring, and evaluating; and thus, it was not surprising that MS did not take place nor had been encouraged in the lecture rooms activities. Alnesyan (2012) found that the lack of Saudi universities' preparation of pre-service teachers represented serious challenges to in-service teachers to teach thinking skills in the classroom. Alnesyan's claim could be applied to the teaching of MC as well. My study showed that whilst planning, monitoring, and evaluating skills existed to some extent, these did not engage the students in MC, or thinking about thinking (See Chapter Four & Five).

The findings further uncovered some potential challenges that discourage the development of MC in KSA HE contexts, such as educational norms, university, students, and lecturers were reported as potentially limiting factors. Moreover, the findings exposed some promising approaches that could advance the development of MC in HE in KSA. For example, participants said they were interested in establishing departmental communities of practice as well as lecture room communities of practice, as a possible way forwards; they also identified training staff members on MC, lecturers' role-modelling MC, and integrating MC into course teaching as possible approaches for developing MC.

Study findings from observations and interviews highlighted the importance of integrating and teaching MC in HE in general and in teacher education programmes in particular. This matches Peteranetz (2014) and Wen's (2012) arguments that pre-service teacher programmes should offer training in MC. Thus, new teachers would be equipped with knowledge and skills of how to employ and promote MC when they begin teaching. Therefore, there is a need to develop a mechanism or a model/framework to integrate MC in the lecture rooms and to create metacognitive learners and teachers, who would play a vital role in developing MC to their students in the future.

This research study contributes to scholarly literature in MC at the national level in Saudi Arabia. A final search of literature was carried out in June 2017 using the following key words; metacognition and teacher educator, metacognition and university teachers in British Education Index, Australian Education Index, and ERIC databases as well as the Saudi Digital Library and no further studies came to light which investigated educators' teaching practices about the application and enhancement of students' MC or MS, whether in HE or public education in KSA. Therefore, this inquiry attempted to address this gap and explore lecturers' and undergraduate students' perspectives regarding the presence and promotion of MS in lecturers' teaching practices.

The current study confirmed previous findings in the literature such as Ben-David and Orion (2013), Georghiades (2004), and Wen (2012) and additionally contributes strong evidence suggesting that the notion of metacognition is unknown for many educators in different educational phases i.e. teacher educators. Thus, raising educators' awareness of MC should be one of the priorities of any educational system.

In this study, I further attempted to provide a Model for Teaching Metacognitively to serve as a guide for University lecturers in general and teacher educators in particular. It is my hope that lecturers will use this model in their own teaching, and promote it to student teachers who will in turn share it with their own students to create more metacognitive learners in their classrooms.

6.3 Research Limitations and Issues

This section discusses the limitations of this current study; pertaining to the study participants; data collection methods: the issue of data translation, and time constraints.

Firstly, although I identified some criteria regarding the selection of lecturer participants, I had some concerns with regard to the basis upon which the heads of departments would nominate potential lecturer participants. Therefore, it was necessary to ensure that the lecturers knew that participation was voluntary. Thus, I had to have a conversation about this with each of them before commencing the data collection process. This procedure was necessary as two-thirds of lecturer participants were working under contracts, and I was concerned to make sure they were not being forced to participate under threat of losing their contract. Thus, I wanted to ensure that they did not participate under any pressure from the dean of the college or the head of the department. A very similar approach was followed with the student participants, especially those nominated by their lecturers. Nevertheless, this all meant that the issue of the means of selecting participants required some work to resolve.

Secondly, some cultural issues influenced the choice of some data collection methods. For instance, video-recording is a highly useful data collection tool (Jewitt, 2012) that can capture layers of details in the data that is difficult to capture otherwise. However, due to cultural and religious considerations in KSA, I could not use a video-recorder to record the classrooms observed. Thus, I tried very hard to write detailed notes to record as much information as possible about the details of the different incidents that took place during the classroom observations. I was also aware that audio-recording the interviews might not be the preference of all the participants for cultural reasons; as a result, I prepared an organised copy of the interview questions with enough blank spaces to write down participants' answers during the interviewing process. This was followed by sending a copy of the transcript, shortly after the interview was done, to these participants to check it and comment on it. This is similar to what Allamnakhrah (2013) faced, in which some non-Saudi staff members involved in his study were anxious about recording the interview.

Thirdly, there were a significant number of non-Saudi lecturers in the COE working under contracts. This fact raised concerns about the extent to which these contracted lecturers would feel free to highlight issues related to the college, department or educational system. Therefore, I took extra care to avoid asking sensitive questions related to the college/department. I also was keen to overcome any anxiety or worry that they might have had, and to show respect for their concerns. For example, a lecturer participant consented to be interviewed and observed, but hesitated to sign the informed consent until she had read the notes of the observations of her teaching as well as the interview transcript. I understood and respected her point of view, and thus I provided her with the original drafts of both to get her signature in the informed consent that would enable me to use the data in this research study.

Another point in connection with authority impact had to do with the students. It is worth highlighting that, in Saudi culture, students hold teachers in high regard. This might lead them to always provide positive feedback about their teachers/lecturers (Al-Jadidi, 2012). Consequently, I made it clear to the lecturer and student participants that the data they would provide would remain strictly confidential and anonymous. Also, it was made clear to them that the aim of the research was not to criticise the current status-quo but to learn about the phenomenon under investigation. Nevertheless, it would be impossible to fully overcome the limitation presented by this cultural fact, while still doing the study in KSA. However, I endeavoured to build good relationships with the students to ensure good quality, honest, accurate data. Furthermore, I was keen to accept the invitations made by the lecturers from the three departments to conduct additional classroom observations or to attend departments' events.

Fourthly, the study was carried out in Arabic in KSA. However, it was presented in English at the University of Exeter in the UK. Therefore, there was a concern related to the effort and time required to translate, construct, and analyse the data (Gahwaji, 2006). Moreover, there was a concern of losing some data as a result of the translation process from Arabic into English and vice versa. In this regards, Romanowski and Nasser (2012) pointed out that whenever translation is involved in research, care must be taken over what may be lost in translation. This is why the help of a professionally qualified translator and experienced proof reader was sought.

Finally, one of the great challenges that I, as the researcher, went through was obtaining formal permission to conduct the study from the responsible authorities in the COE. The process took significantly longer than expected which led to the need for an extension to the permission to stay in Saudi Arabia issued to me from the UK. This experience was very disturbing to me, but I learned many significant lessons from it. For example, I realised how significant it is to network with academics and maintain good relationships with them; this, alone, could have saved me much distress and wasted time.

6.4 Implications of the Study

The findings from classroom observations, interviews and group interviews might have an assortment of valuable practical implications that could assess and encourage the application and development of MC, specifically in HE institutions in KSA. In what follows, I present several proposed implications for HE policy and decisions makers as well as the University lecturers with a focus on the COE as it is the study context. The suggestion is that all these parties, namely the Ministry of Education (MOE), the heads of departments, and the University/College staff members might co-work to achieve the recommendations together, additionally to the specific responsibilities that each party have. I further noted some implications for my personal professional learning as a learner and lecturer in the University.

6.4.1 Implications for the Policy-Makers

In KSA, MC appears to have been given little attention by the National Commission for Academic Accreditation and Assessment (NCAAA). According to Alshammari (2015) and Jalil and Zig (2009), MC and MS appear little in new education reform and classrooms, whether at the HE or pre-HE levels, as there are no explicit policies and instructions that support the development of MC. This shows a need for implementing policies on MC.

In KSA, the implementation of the educational process is the remit of the MOE as it is accountable for the planning, designing, organising, and directing of the

education system (Alnesyan, 2012). Therefore, the MOE could be the first engine to the integration of any new or promised educational or instructional thoughts i.e. MC in the Saudi education system at all levels including HE.

It is important for the minds and practices of the policy and decision makers who are working under this MOE to be changed in accordance with contemporary changes in KSA's international political and economic context, so that they continue to produce suitable policy documents to guide KSA's education system going forwards (Alnesyan, 2012). By doing this, they are likely to encounter any new and promising concepts and approaches such as MC; and then could make extraordinary efforts and practical applications to study, modify, and then incorporate them in the Saudi education system.

For MC in HE, for example, the policy and decision makers could set out explicit instructions and demands for the teaching of MC in the universities and make MC one of its ultimate objectives. This could be done through reformulating the university guidelines and redesigning the curricula to ensure the integration of MC into it, theoretically and practically. Regarding the curriculum description, each course description used to be done by one or two lecturers from the area of specialty i.e. kindergarten and then reviewed by a panel from the college and the university. At this point, I argue that experts of the teaching of thinking including MC should join this group.

Findings revealed that lecturers lacked knowledge of MC, and thus this could be corrected by ensuring they be prepared and qualified to teach MC to their students. Moreover, findings showed that some lecturers were willing to receive training on MC (See Chapter Four & Five). To this end, the policy and decision makers could direct the 'Development and Quality Assurance Deanship' (DQAD) in the university to conduct ongoing training programmes on MC for the university's lecturers, particularly those who teach in teacher education programmes. These training programmes would raise lecturers' awareness of MC and provide them with a theoretical and practical basis of the teaching of MC. Experts and trainers in the field of MC should present these programmes.

Based on my personal experience and interviewing lecturers, the attendance of existing workshops and seminars is optional. Hence, to ensure the teaching and integration of MC in the lecture rooms, the participation of these training

programmes could be binding for each lecturer. I would suggest that each department deducts two or three days of each semester to provide training programmes on MC or any such developmental or other valuable thoughts. A timetable of training programmes could be announced in advance to the university lecturers to help them to arrange their teaching timetable and other schedule or administrative responsibilities to account for the demands such training would place on their time.

Based on the findings, inappropriate lecture room layout may limit the teaching of MC. Therefore, an appropriate class environment also might be taken into consideration by the policy makers in the education system as it would have impact on the teaching of MC and the application of active teaching strategies. For instance, chairs should be moveable and not attached to the ground and there could be a fundamental change to the layout of the lecture rooms to make it possible to apply active teaching methods such as cooperative learning (See Chapter Four). In this regard, Sungur and Senler (2009) pointed out that MC may be introduced to learners in schools and universities to promote independence, agency, confidence and development via activities, which push them to engage. In these situations, learners may gain access to new approaches that they then have the opportunity to question and assess.

Moreover, the findings indicated teaching and application of MC could be one of the evaluation criteria of lecturers' professional performance. The course report that each lecturer submits at the end of each semester for each course (see Chapter Five) could include a report/statement of the students' metacognitive level and the procedures that they were undertaking to develop and assess students' MC. This might encourage lecturers to apply and teach metacognition to students.

The findings further suggest that the policy makers could encourage staff members to apply MC via an incentive system. However, Fryer (2011) outlined that there is no evidence that incentives change teacher or student behaviour. Indeed, Firestone and Pennell (1993), and Johnson (1984) claimed that teacher incentives can have negative impact on educator's intrinsic motivation, lead to a problem of fairness; and create undesirable competition among educators rather than creating a collaborative environment. Fryer (2011), summarised

teacher incentives as having one of three effects. Firstly, rewarding teachers with financial incentives for increasing student achievement may motivate teachers to increase their input efforts, for example with lesson planning or parental engagement. However, incentives may have no impact on teachers if they do not know how to increase student achievement, or if the incentives are too weak. Finally, teacher incentives may have unintended consequences, such as encouraging cheating, or teaching students to pass tests, rather than improving their general learning, which could impact negatively on students. Nevertheless, Saudi researcher Alnesyan (2012) argued the MOE reviewing and restoring teachers' incentives system and distinguishing between traditional and progressive teachers might improve teachers' performance in the classroom concerning the teaching of thinking skills. They could distinguish between lecturers who consider the development of students' MC seriously and those who fail to. This could apply to the teaching of thinking skills including MC for educators in each education phase.

The findings brought to attention the issues of professional isolationism and lack of flexibility as obstacles to the development of MC in HE; it indicated that there is isolation between each party in the university structure. Therefore, integrating MC in HE will require cooperation between policy-makers at the different levels starting from the MOE to the head of each department and the university's staff members. Moreover, there should be effective communication channels between policy makers and staff members to discuss their professional needs, thoughts, and suggestions. There could be less centralisation and more space for flexibility that would allow them to experience, recommended, and apply new approaches.

6.4.2 Implications for the Head of the Department

The head of department works under the umbrella of the dean of the college. S/he is entrusted with the process of achieving the department's objectives and missions. Thus, if the policy-makers acknowledge the adoption of MC; then it is the head of department's responsibility to direct, monitor and evaluate the application and development of students' MC. In doing so, they could firstly, establish a department community of practice, introducing the notion of

metacognition to the lecturers and holding a discussion and dialogue with them concerning approaches that would help them to understand and teach MC to their students i.e. training programmes. The discussion might focus on the actual training needs for lecturers regarding the encouragement of MC, and the appropriate time and duration for these programmes. Once the lecturers are knowledgeable about MC, the head of department could agree with them on a plan, framework and procedure to incorporate MC and required them to commit to it.

Group interviews suggested that, for example, in a weekly meeting, the head of the department could encourage the lecturers to discuss and share their knowledge and experience of MC with each other; reflect on their practice and rethink about their thinking. This would allow them to learn from each other and exchange thoughts and experience regarding what was and was not applicable about the teaching of MC and to provide alternatives to overcome them. Accordingly, they would build an appropriate metacognitive knowledge, which would have a significant influence on their pedagogical understanding of MC or what is required to teach students to be metacognitive learners (Wilson & Bai, 2010). The head of department could further encourage cooperation between the lecturers to support those who do not have an educational background so they can learn from those with educational qualification.

Findings suggest that lecturers conduct micro-teaching among one another as a way to train in MC. Thus, I suggest that the head of department encourages lecturers to conduct micro-teaching or to observe each other in their actual teaching to learn from each other and provide reasonable suggestions and feedback for each other. According to Hartman (2001b), videotaping teachers while teaching is recommended as a way of introducing or developing the teaching of MC; it would allow them opportunities to reflect on and self-assess or self-evaluate their own instruction. However, due to cultural considerations, this might not be applicable in KSA. Thus, I would suggest replacing videotape with audio records.

As I mentioned above, the findings indicated there is isolation between the COE's departments; thus, the head of each department could share the department's experience and mechanisms of the teaching and application of

MC with other departments in the college as well as the policy-makers at the college level.

6.4.3 Implications for the University Lecturers

The study findings indicated that MC could be integrated into lecture rooms through the following:

Firstly, it was evident that there is remoteness among the lecturers within the same department (See Chapter Four & Five). Therefore, there should be cooperation between lecturers/teacher educators in each department to discuss each module's content, identifying the similarities and differences, agreeing on which need a focus in each module to avoid repetition, and identifying where MC could take place. This cooperation is highly recommended particularly for those who teach the same module. They can, plan, set goals, and choose learning resources and procedures; identify the procedures of monitoring and evaluating; suggest alternatives and solve problems. Observing each other if it is possible, giving feedback, reflecting and rethinking together about their teaching practices regarding the content subject as well as MC would help.

Secondly, findings showed the dominance of traditional teaching styles in KSA i.e. the lecture method, which emphasises teacher-centred classes. Therefore, I recommend active teaching methods i.e. discussion, dialogue, problem-solving, the K-W-L (Know-Want-Learn) strategy, group work/cooperative learning, the questioning method, micro teaching, role-play, explicit instructions, role-modelling, practical application, brainstorming and problem-based learning. The implementation of such strategies is likely to engage and encourage the student to reflect and think about their own thinking or learning. However, the effectiveness of these strategies depends on lecturers' knowledge and skills in the application of them.

Thirdly, it is necessary to establish a balance between teacher-centred class and student-centred class. Thus, the adoption and establishment of the lecture room itself as a community of practice is recommended. The lecturer/teacher educator could share and discuss the module plan, resources, tools, teaching and evaluating strategies with students. They could further encourage students

to reflect on the lecture and evaluate it to find ways to improve the teaching and objectives of the module as well as the teaching of MC. In this regard, findings indicated students are required to evaluate each module at the end of each semester, however evaluating the course while it is ongoing means current students benefit from changes, as well as future students.

Fourthly, findings suggested that lecturers' questions in the lecture rooms as well as in exams are likely to discourage the development of students' MC and MS. For example, most of the questions that were asked revolved around recalling information and structure questions. Thus, there is a need for questions that encourage thinking, and thinking about thinking, such as prompting, self-questioning, problem-solving styles. These types of questions would encourage students to stop and rethink about their thinking.

Fifthly, in this study, educators as role-models of MC are highly recommended to establish and support the development of students' MC. Therefore, I would argue that instead of just providing students with booklets about MC or theoretical information, the teacher educators should be role-models for their students. They could teach MC explicitly by modeling it and articulating the process of their thinking about the lecture/lesson/session, explaining how they go through the whole process step-by-step. They could model both knowledge of cognition and regulation of cognition. In this regard, I suggest that:

1. The first slide of the PowerPoint provides the teaching plan in a table which includes: the lecture objectives, outline of the content, teaching strategies, learning material/activities, monitoring and evaluating procedure and time related to each instructional goal.
2. The lecturer clearly reads the plan explaining the 'what' questions (declarative knowledge), 'how' questions (procedural knowledge), and 'why' and 'when' questions (conditional knowledge) s/he went through to prepare the plan, i.e. 'What are my aims in teaching this lesson? How am I going to approach these goals? Why did I set out these goals, and when should I present them?' That is to say, modelling declarative, procedural and conditional knowledge.
3. S/he then starts the teaching following her/his plan.

4. While teaching, s/he observes students' reaction and interaction; doing so would inform her/him whether s/he could continue or stop to check students' understanding.

5. S/he then explains why s/he, for example, decided to stop and ask questions; what mental process s/he had in mind to make this decision or what evidence s/he observed which led to this decision.

6. S/he continues asking the same students to check their understanding, rather than moving to another one, and explains that this is to encourage them to metacognitively reflect on their thinking. This contrast with what I observed in my study, where the lecturers missed this opportunity to encourage MC, by moving on from students who were struggling, instead of helping them engage more deeply with their learning and thinking.

7. S/he gives examples of questions that she assumed students could ask themselves while listening to the lecture (i.e. "Does this all make sense to me? What question do you ask yourself to check up on your understanding? Is there anything in here I don't fully understand? What can you do to clarify your understanding?" (Hartman, 2001b, p. 167).

8. S/he presents her/his teaching plan again and carries out a self-evaluation concerning whether s/he achieved the goals, followed the plan, and used the lecture time well. Again, this is in contrast to my observations from my study, in which for example one lecturer taught for only an hour when she had two hours to use, and another lecturer arrived late and taught for only an hour and a quarter in a two-hour slot, finishing well before the end of the time available, and therefore not making best use of it.

9. In the end, s/he asks for (verbal/written) feedback from students to improve the upcoming lecture.

This is in line with Hartman (2001b), who put forward an approach to teaching metacognitive techniques, which relied on a foundation of frequently vocalising why, how and what she was demonstrating. This helps teachers to both watch and understand the most effective way of applying these skills; they are forced to think about why the technique is being used and how to address and prevent misunderstanding when teaching young people. Further, it models how one can determine when to recognise extra effort when explaining, as well as why one would push a student repeatedly to elaborate and how to make use of the

classroom time available. The system is displayed on the board as a support for learning, so that students can better visualise the process

Then I suggest that the teacher educators/lecturers move on to practical approaches. For example, requiring students to plan a lesson or presentation or programme, presenting it in the lecture room through a micro teaching session and then self-evaluate themselves alongside an evaluation from their classmates and the lecturer. Moreover, the student could be required to provide a journal diary (Hartman, 2001b) explaining how they went through the plan, how they monitor their performance, and how they evaluate themselves. The journal should further present features of both components of MC, namely knowledge of cognition and regulation of cognition, and how they addressed both. The lecturer could further provide the students with guidance that would help him/her to fill the journal (see Figure 6.1. which will be presented later in this chapter). Thinking aloud is a recommended technique to assess students' MC (Hartman, 2001b). However, it might not be applicable in Saudi HE classrooms due to the students' large numbers.

Sixthly, findings highlighted the significant role that lecturers/teacher educators play in developing and constructing the beliefs and knowledge of student teachers (Al-Jadidi, 2012). Therefore, they have the greatest role to play in the development of students' MC and raising their awareness and use of MC to prepare them to cope with the demands of the 21st century and the age of information. Lecturers themselves should be metacognitive; and teach their students in a metacognitive manner because this would facilitate efficient academic performance, improve classroom communication and maximise teachers/educators' effectiveness with their students (Hartman, 2001b).

According to Hartman (2001b) teaching metacognitively refers to teaching *with* and *for* MC. Teaching *with* MC means that MC accompanies the educator/lecturer before, during and after their teaching. Teaching *for* MC means thinking about how their procedures, techniques, and instruction will develop and activate their students' thinking about their own thinking or MC (Hartman, 2001b) (See Chapter Five).

Furthermore, to teach metacognitively, it is necessary to consider both dimensions of MC: knowledge of cognition and regulation of cognition in the

teaching and learning processes. At the first stage, the lecturer could address 'knowledge of cognition' components before the planning of the lesson/session. S/he could address declarative knowledge, procedural knowledge, and conditional knowledge. Considering these three categories is required for planning the lesson effectively (Hartman, 2001b). According to Hartman (2001b), declarative knowledge could be sought by a "What" question. For instance, what are the concepts, definitions, or facts, in a subject area; 'What prior knowledge do the students have; what is the proper teaching strategy?' Procedural knowledge revolves around how to apply strategies or information. For instance, 'How would I apply the strategies? How would I activate the students' prior knowledge?' Conditional knowledge is often elicited by a "Why" or "When" question. In other terms, what is the situation or reason in which strategies or knowledge are applied (p. 157).

At the second stage, addressing the 'regulation of cognition' skills is recommended. A lecturer/teacher needs to plan what s/he is going to teach and how; monitoring or checking how the lesson is progressing as s/he teaches, and making changes or modifications when necessary; and finally evaluating how the lesson was after it is finished (Hartman, 2001b). In line with my findings I also suggest that students be informed in advance that they will be taught in a metacognitive manner and that MC is one of the desirable target objectives for HE students. This would make students more focused with the lecturer because they know what is expected of them.

Drawing on what I observed, heard, and read in MC literature (i.e. Hartman, 2001b; Schraw, 1998, Shraw & Moshman, 1995; Tanner, 2012) I designed a model that could serve as guidance for university lecturers including teacher educators to teach metacognitively. The model has similar procedures/steps to those suggested by Hartman in (2001b). However, I made some modifications and additions, as follow:

1. Hartman's (2001b) model of teaching metacognitively comprises of two broad categories: 'strategic knowledge' and 'executive management strategies'. Each one of these categories has sub-categories. In my proposed model, I replaced 'strategic knowledge' and 'executive management strategies' with 'knowledge of cognition' and 'regulation of

cognition' respectively. In this regard, I would argue that the use of the term 'strategies' in both of Hartman's categories leads to some overlapping and confusion for the reader. Especially that 'strategic knowledge' is much about information and is similar to 'knowledge of cognition' in Schraw and Moshman's (1995) model of MC, which refers to knowledge about cognition, in general, as well as one's own cognition.

2. Hartman (2001b) pointed out that 'executive management strategies' concern planning, monitoring, and evaluating skills. Hartman classified 'strategic knowledge' into three basic categories: declarative knowledge (What questions), procedural knowledge (How questions), and conditional or contextual knowledge (When or Why questions). In this regard, I suggest that conditional or contextual knowledge should also involve 'Where' questions, for example, where to apply a specific teaching strategy i.e. cooperative learning? In the second classroom observation of a special education lecturer, the lecturer applied cooperative learning. However, she utilised this strategy in a typical lecture room in which the chairs were installed in rows fixed to the ground. Thus, there was no chance for students to group in a circle and work or discuss the assigned task together. Furthermore, the task required searching for information from the Internet, but due to weak wi-fi network in the lecture room, some students had to go outside the lecture room to search for information and then present it. This shows that it is necessary for the educator to consider the question 'Where' when deciding to apply a particular technique. Otherwise, the use of the chosen strategy may prove problematic.

3. Instead of presenting my model in a list or text or mixing both like Hartman did her findings, I also found it is useful to present the model in a diagram to ease understanding and application. Figure 6.1, therefore, shows my depiction of teaching metacognitively. This model is proposed only as a guideline, however, and it may be that other practitioners and researchers will work with it and improve upon it still further.

Figure 6.1 Model of Teaching Metacognitively

Teaching Metacognitively

Knowledge of Cognition — Regulation of Cognition

Knowledge of Cognition			Regulation of Cognition		
Declarative **What**	**Procedural** **How**	**Conditional** **Why/when/** **Where**	**Planning**	**Monitoring**	**Evaluating**
Short/long-term goals	Achieve goals?	Why these goals?	Set objectives	Check students' comprehension	Assess strength & weaknesses of session
Students' needs	Get information about students' needs?	**Where to assess students' needs?**	Identify content	Self-questioning of students' behaviour during the lesson & predicting the reasons	Question why and what evidences strengths & weaknesses of session
Skills/information	Get knowledge about students' prior knowledge	Why/when to teach these specific skills?	Identify resources	Monitoring helpfulness of teaching strategies	Judge pace of teaching
Knowledge sources	Activate students' prior knowledge	Why/when to activate students' prior knowledge?	Consider students' prior knowledge	Monitor helpfulness of learning activities/materials	Judge effectiveness of teaching
Students' prior knowledge	Apply teaching strategies	Why/when to apply selected strategies?	Select teaching strategies	Check how the pace of the lecture is going	Evaluate if goals achieved
Teaching strategies?	Apply learning activities/materials	Why/when to apply selected activities/materials? Why/when monitor?	Select learning activities/materials	Find out what should be done immediately to improve the lecture session	Assess students' performance
Learning activities/Materials	Monitor	Why/when evaluate?	Prepare questions	Find out if students can identify the main point of the lesson	Assess lecturers' performance
Monitoring approaches	Evaluate	**Where am I going to provide feedback opportunities for the students?**	Select monitoring techniques	Encourage students to self-question their comprehension	Get feedback on teaching style to improve next session
Feedback	Provide feedback opportunities	Why/when to ask students for feedback?	Select evaluating techniques	Encourage students to share any points that confused them with lecturer and classmates.	
Assessment type	Identify strengths and weaknesses	**Where to conduct the lecture? i.e. typical lecture room, theater, lab etc.**	Budget time		
Weaknesses of last session			Decide on the plan sequence		
			Predict potential learning problems & how to recover from them		

6.4.4 Implications for My Professional Learning

As a part of Saudi higher education, particularly the teacher preparation programme, reading metacognition literature and conducting this exploratory study has helped me in several ways.

Firstly, I have become more aware of the importance of metacognition and promoting student teachers' metacognition as metacognitive and lifelong learners. Promoting lifelong learners would improve the quality of education and match the new vision for education in Saudi Arabia (Al-Zahrani, 2017).

Secondly, observing lecturers' teaching practices, interviewing them, and comparing their experiences with my own practice revealed that the current situation does not encourage the development of metacognitive skills. Although I taught planning and evaluating skills to undergraduate students as part of Teaching Methods module, it did not reach the level of metacognitive skills. Accordingly, I now realise the need to modify and improve the quality of my teaching as well as the quality of my questions in a way that would enhance students' metacognitive abilities. For example, I used to apply only explanation, and rarely used active teaching methods. I also mostly used to ask factual questions to test students' knowledge, rather than skills.

With reference to my own learning and teaching, through metacognition I will be able to understand myself as learner and teacher as well as my students. I am now better equipped for designing good teaching and learning environments; considering the potential limitations that I might face; making the necessary procedures to adapt around such limitations; reflecting and rethinking about practice/teaching and then improving it.

I would plan to teach in a metacognitive way following the proposed model (See Figure 6.1). I would further explicitly model metacognition in the lecture room; introducing the lecture's plan, explaining what we will learn, how we will go through our lesson and why, when, and where we will use, for example, a specific strategy. I will start teaching and asking questions that encourage students' metacognitive thinking. Finally, I will evaluate my plan and teaching

and explain its' strengths and weaknesses to the students to role model metacognitive pedagogy.

Moreover, I plan to establish the lecture room as a community of practice by designing lecture room activities with consideration of three contexts: teacher-student interactions, student-student interaction, and individual reflection.

Conducting this study has allowed me to apply this knowledge to help other educators at HE level or pre-HE level by providing individual consultation or training programmes on MC. In this study, I did not seek to make any changes in the lecturers' teaching practices; however, my study could still be applied to making beneficial changes to lecturers teaching practices and the development of both lecturers' and students' metacognition. I introduced the terms MC and MS with their practical aspects to the lecturer participants.

I also recognise the responsibility that lies on my shoulders as a staff member in the teacher education programmes, as these programmes are responsible for graduating future teachers. Thus, as a staff member in the COE, through teaching MC to student teachers, I can be part of preparing metacognitive teachers and learners who would develop new generations with lifelong MS, which this study has shown is a primary demand of the 21st century. In this regard, Butterfield (2012) argues teacher training courses should recognise the value of metacognition so that they can adequately prepare teachers. Butterfield further expressed the belief that MC has positive influences on students' choice of career future and that it would contribute to gaining lifelong learning skills. This is in line with Carson (2012) claiming that "The development of metacognition and metacognitive skills is critical in the preparation of learners for active engagement within lifelong learning, the knowledge economy and Indeed, the knowledge society" (p. 315). This supports my assertion that teacher trainers should be conscious of their impact potentially equipping new teachers with highly valuable skills like MC.

6.5 Suggestions for Future Research

Based on this current study, I suggest future research might address the following:

1. To inform the teaching and development of MC, I would suggest conducting an action research or design-based research methodology and applying a training programme in MC to explore how MC could be integrated into HE in KSA.

2. The current study was conducted in a HE context; however, it might be beneficial for educators in general. Therefore, I would suggest carrying out a similar investigation in schools to explore whether MC is taught in schools and, if yes, how? And if not, how might it be introduced?

3. This research study argued that MC is domain general, however, the application of skills of metacognition might differ to some extent in each subject area or metacognitive sub-skills might differ from one task/subject to another. Therefore, I would suggest a mixed method research (experimental design and case study) explore and describe the most appropriate MS in each specialisation (i.e. kindergarten, special education, art education).

4. The findings of this study highlighted educational and psychological modules (i.e. the Design and Developing of Lessons, Teaching Methods, Cognitive development) as the most appropriate modules to teach MC. Therefore, I would suggest research to explore how such courses would foster students' MC.

5. The study appreciated the role that teacher educators could play in the enhancement of students' MC. Thus I would suggest conducting a study to find out the relationship between the educator's MC and his/her students' MC.

6. The findings remarked on traditional teaching style as being an obstacle of the development of MC. Hence I would suggest carrying out a research study to explore how active teaching strategies (i.e. micro teaching, role play, reciprocal teaching, problem-based learning, or

problem-solving) would help students advance their planning, monitoring, and evaluating skills of learning and thinking about own thinking.

References

Abdolhosseini, A., Keikhavani, S., & Hasel, K. M. (2011). The effect of instructing cognitive and metacognitive strategies on the academic progress of Ilam medical university students. *Psychology Research,* 1(4), 244-250.

Abu Bashir, A. (2012). *The effect of using metacognition strategies in developing reflective thinking skills in technology curriculum for the ninth graders in middle governorate.* Unpublished Master dissertation, Al-Azhar University, Egypt.

Abu-Latifah, L. (2015). Metacognition thinking level for students in the faculty of education in Al-Baha University in the Kingdom of Saudi Arabia. *The Journal of Al-Quds Open University of Educational and Psychological Research and Studies,* 3(10), 81-109.

Abu Shmais, W. (2002). Identifying the metacognitive reading strategies of Arab university students: A case study. *An-Najah University Journal of Research (H. Sc.)*, 16(2), 633–661.

Achoui, M. M. (2009). Human resource development in Gulf countries: An analysis of the trends and challenges facing Saudi Arabia. *Human Resource Development International*, 12(1), 35-46

Ader, E. (2013). A framework for understanding teachers' promotion of students' metacognition. Retrieved 29 November, 2016, from www.cimt.org.uk/journal/ader.pdf

Adler, A. J. (1998). Lights and limits: Recontextualising Lave and Wenger to theorise knowledge of teaching and of learning school mathematics. In A. Watson (Ed.), *Situated cognition and the learning of mathematics*,161–177.

Akturk, A.O., & Sahin, I. (2011). Literature review on metacognition and its measurement. *Procedia Social and Behavioral Sciences, 15*, 3731-3736.

Alahmmady, M. A. (2012). Effectiveness of using some of the metacognition strategies in developing some skills of creative reading and its impact on metacognitive thinking among middle school female students. *International Journal of Educational Research/United Arab Emirates University,* 32, 121- 152.

Alam, M. (2013). Banking model of education in teacher-centered class: A critical assessment. *Research on Humanities and Social Sciences*, 3(15), 27-31.

Albagami, S. (2015). Implementing quality assurance in Saudi Arabia: A comparison between the MESO and the MICRO levels at PSU. *Higher Education Studies*, 5(3), 66-81.

Alci, B., & Karatas, H. (2011). Teachers candidates' metacognitive awareness according to their domains and sex. *International Journal of Multidisciplinary Thought,* 1(06), 255-263.

Al-Eisa, E. S., & Smith, L. (2013). Governance in Saudi higher education. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 27-36). New York: Springer.

Alfahadi, A. (2012). *Saudi teachers' views on appropriate cultural models for EFL textbooks: Insights into TESOL, teachers' management of global cultural flows and local realities in their teaching worlds.* Unpublished PhD thesis, University of Exeter, UK.

Algasham, S. (2016, May 3). التعليم في "رؤية 2030"..تنمية بشرية و مناهج متطورة [Education in "Vision 2030". Human development and advanced curriculum], *Al Hayat Magazine*. Retrieved 12 June, 2017, from
http://www.alhayat.com/Articles/15393244/

Alghamdi, A. K. H., & Al-Salouli, M. S. (2013). Saudi elementary science teachers' beliefs: Teaching science in the new millennium. *International Journal of Science and Mathematics Education,* 11, 501-525.

Alhagbani, A., & Riazi, M. (2012). Metacognitive awareness of reading strategy use in Arabic as a second language. *Reading in a Foreign Language*, 24(2), 231-255.

Alharthy, M. A. S. (2008). *The effectiveness of using reciprocal teaching strategy in the development of metacognitive skills in reading among high school students.* Unpublished Master dissertation, College of Education, Umm Al-Qura University, KSA.

Al-Jadidi, N. (2012). *The professional preparation, knowledge, and beliefs of kindergarten teachers in Saudi Arabia.* Unpublished PhD thesis, University of Exeter, UK.

Al-Jarrah, A., & Obeidat, A. (2011). Metacognitive thinking level amongst a sample of Yarmouk University students in the light of some variables. *The Journal of Educational Sciences in Jordan*, 7(2),145–162.

Al-Khatib, B. A. (2012). The effect of using brainstorming strategy in developing creative problem solving skills among female students in princess Alia University College. *International Journal of Contemporary Research*, 2(10), 29-38.

Al-Khawaldeh, K., Al-Rbabaah, J., & Al-Saleem, B. (2012). The degree of acquiring metacognitive skills and its relationship with gender and specialization and academic achievement in Jarish secondary schools. *International Journal of Educational Focus*, 1(3), 73– 87.

Allamnakhrah, A. (2013). *Teaching critical thinking in Saudi Arabia: A study of pre-service teacher education programs.* Unpublished PhD thesis, UNSW University, Australia.

Allison, A. (2006). Preparing our graduates for a lifetime of learning. *American Journal of Pharmaceutical Education*, 70(1), 1-2.

Al-Mousa, N. A. (2010).*The experience of the Kingdom of Saudi Arabia in mainstreaming students with special education needs in public schools (a success story).* Riyadh, Saudi Arabia: The Arab Bureau of Education for the Gulf States.

Almubirik, H. (2007). *The practice of critical thinking by university professor and its relationship with university's environment variables.* Unpublished PhD thesis, King Saud University, Riyadh, KSA.

Alnahdi, G. H. (2014). Educational change in Saudi Arabia. *Journal of International Education Research*, 10(1), 1-6.

Alnassar, S. A., & Dow, K. L. (2013). Delivering high-quality teaching and learning for university students in Saudi Arabia. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 49-60). New York: Springer.

Alnesyan, A. (2012). *Teaching and learning thinking skills in the Kingdom of Saudi Arabia: Case studies from seven primary schools.* Unpublished PhD thesis, University of Exeter, UK.

Alqahtani, M. (2011). *An investigation into the language needs of Saudi students studying in British postgraduate programmes and the cultural differences impacting on them*. Unpublished PhD thesis, University of Southampton, UK.

Al-Seghayer, K. (2011). *English teaching in Saudi Arabia: Status, issues, and challenges.* Riyadh, Saudi Arabia: Hala Print.

Alshammari, M. K. (2015). The effect of using metacognitive strategies for achievement and the trend toward social studies for intermediate schools students in Saudi Arabia. *International Journal of Education, Learning and Development*, 3(7), 47-54.

Alshuaifan, A. S. R. (2009). *Key elements of the ESL/EFL teacher preparation program at the university of Ha'il Saudi Arabia: EFL Practitioners and faculty perceptions.* Unpublished PhD thesis, University of West Virginia, USA.

Alsudairi, M. A. (2012). An effective model for the professional development of middle eastern faculty. In J. E. Groccia, M. A. Alsudairi, & W. Buskist (Eds.), *Handbook of college and university teaching: A global perspective* (pp. 143-153).New York:
Sage Publication.

Alwasal, S. H., & Alhadlaq, S. M. (2012). Preparing middle eastern students for the future. In J. E. Groccia, M. A. Alsudairi, & W. Buskist (Eds.), *Handbook of college and university teaching: A global perspective* (pp.77-90).New York: Sage Publication.

Alzahrani, K. S. (2017a). Metacognition and cooperative learning in the Mathematics classroom. *IEJME – Mathematics Education*, 12(5), 475-491.

Alzahrani, K. S. (2017b). Metacognition and its role in Mathematics learning: an exploration of the perceptions of a teacher and a student in a secondary school. *IEJME – Mathematics Education*, 12(5), 521-537.

Al-Zahrani, N. O. (2017). Attitudes and perceptions of Saudi EFL teachers in implementing Kingdom of Saudi Arabia's Vision 2030. *International Journal of English Language Education,* 5(1), 83-99.

Alzoubi, S. M. (2013). The level of metacognitive thinking among special education students. *Prime Research on Education (PRE)*, 3(2), 437- 441.

Al-Zubaidi, K. (2012). The academic writing of Arab postgraduate students: Discussing the main language issues. *Procedia - Social and Behavioral Sciences*, *66*, 46–52.

Amzil, A. (2014). The effect of a metacognitive intervention on college students' reading performance and metacognitive skills. *Journal of Education and Developmental Psychology,* 4(1), 27-45.

Anderson, N. J. (2003). Metacognitive reading strategies increase L2 performance. *The Language Teacher,* 27(7), 20-22.

Andrade, A. D. (2009). Interpretive research aiming at theory building: Adopting and adapting the case study design. *The Qualitative Report*, 14(1), 42–60.

Anggo, M. (2011, July). The metacognitive process of teachers' college students in solving mathematical problems. *International Seminar and the Fourth National Conference on Mathematics Education, 2011. "Building the Nation Character through Humanistic Mathematics Education". Department of Mathematics Education, Yogyakarta State University, Yogyakarta.*

Ayubi, N. (2005). *Political Islam: Religion and politics in the Arab world.* London and New York: Routledge.

Baird, J. (1988). Quality: What should make higher education higher? *Higher Education Research & Development,* 7(2), 141-152.

Baker, L., & Brown, A. L. (1980). *Metacognitive Skills and Reading. Technical Report No. 188.* Retrieved 22 July, 2017, from https://eric.ed.gov/?id=ED195932

Baker, S. E., & Edwards, R. (2012). *How many qualitative interviews is enough? Expert voices and early career reflections on sampling and cases in qualitative research.* National Centre for Research Methods Review Paper

(NCRM). Retrieved 12 December, 2016, from http://blog.soton.ac.uk/dissertation/files/2013/09/how_many_interviews.pdf

Balcikanli, C. (2011). Metacognitive awareness inventory for teachers (MAIT). *Electronic Journal of Research in Educational Psychology,* 9(3), 1309-1332.

Barnawi, O. (2011). Finding a place for critical thinking and self-voice in college English as a foreign language writing classrooms. *English Language Teaching*, 4(2), 190-197.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544–559.

Ben-David, A., & Orion, N. (2013). Teachers' voices on integrating metacognition into science education. *International Journal of Science Education,* 35(18), 3161-3193.

BERA, (2011). *Ethical guidelines for educational research*. Retrieved 22 September, 2013, from https://www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Ethical-Guidelines-2011.pdf

Bienvenida, N. (2014, March 6-8). *Teachers' strategies for developing metacognitive behaviors and ability to facilitate learning in relation to students' level of cognition in Biology.* Presented at the DLSU Research Congress 2014 De La Salle University, Manila, Philippines.

Bozkurt, N. (2013). The relation between the history teacher candidates' learning styles and metacognitive levels. *Anthropologist,* 16(3), 585-594.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Brown, A. (1987). Metacognition, executive control, self-regulation, and other more mysterious mechanisms. In F. E. Weinert & R. H. Kluwe (Eds.), *Metacognition, motivation, and understanding* (pp. 65-116). Hillsdale, NJ: Lawrence Erlbaum.

Buratti, S., & Allwood, C. M. (2015). Regulating metacognitive processes – support for a Meta-metacognitive ability. In A. Peña-Ayala (Ed.), *Metacognition: Fundaments, applications, and trends* (pp.17-38). Gothenburg: Springer International Publishing.

Burgess, R. (1989). *The ethics of educational research*. London: Falmer.

Butterfield, A. (2012). *Employing metacognitive procedures in natural science teaching.* Unpublished Master dissertation, Stellenbosch University, South Africa.

Carmichael, C. (2006). *Exploration of critical thinking in environmental subjects*. Unpublished Master dissertation, University of Technology, Sydney.

Carson, L. J. (2012). *An exploration of metacognition and its interplay with other forms of conscious thought processing in independent learning at tertiary level*. Unpublished PhD thesis, Dublin City University, Irland.

Chiu, M. M., & Kuo, S. W. (2009). From metacognition to social metacognition: Similarities, differences, and learning. *Journal of Education Research*, 3(4), 321-338.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education (5th ed.)*. London: Routledge.

Collier, K. G. (1985). Teaching methods in higher education: The changing scene, with special reference to small-group work. *Higher Education Research & Development,* 4(1), 3-27.

Cornford, I. (2002). Learning to learn strategies as a basis for effective lifelong learning. *International Journal of Lifelong Education*, 21(4), 357- 368.

Coutinho, S. (2007). The relationship between goals, metacognition, and academic success. *Educate Journal,* 7(1), 39-47.

Creswell, J. W. (2014) *Educational research: Planning, conducting, and evaluating quantitative and qualitative research (*5th ed.). New York: Pearson.

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist*, 35(2), 236–264.

Crotty, M. J. (2003). *The foundations of social research: Meaning and perspective in the research process*. London: Sage Publication.

Curtis, S., Gesler, W., Smith, G., & Washburn, S. (2000). Approaches to sampling and case selection in qualitative research: Examples in the geography of health. *Social Science & Medicine*, 50(7-8), 1001– 1014.

Darandari, E. Z., AL-Qahtani, S. A., Allen, I. D., AL-Yafi, W. A., Al-Sudairi, A. A., & Catapang, J. (2009). The quality assurance system for post-secondary education in Saudi Arabia: A comprehensive, developmental and unified approach. *Quality in Higher Education*, 15(1), 39-50.

De Backer, L., Van Keer, H., & Valcke, M. (2012). Exploring the potential impact of reciprocal peer tutoring on higher education students' metacognitive knowledge and regulation. *Instructional Science,* 40(3), 559-588.

DeMarrais, K. (2004). Qualitative interview studies: Learning through experience. In K. DeMarrais & S. D. Lapan (Eds.), *Foundations for research* (pp. 54-68). Mahwah, NJ: Erlbaum.

Demirel, M., Aşkın, İ., & Yağcı, E. (2015). An investigation of teacher candidates' metacognitive skills. *Procedia-Social and Behavioral Sciences*, *174*, 1521-1528.

Desoete, A. (2008). Multi-method assessment of metacognitive skills in

elementary school children: How you test is what you get. *Metacognition and Learning*, 3, 1-17.

DiCicco-Bloom, B., & Crabtree, B. (2006). The qualitative research interview. *Medical Education*, 40(4), 314–321.

Doganay, A., & Demir, O. (2011). Comparison of the level of using metacognitive strategies during study between high achieving and low achieving prospective teachers. *Educational Sciences: Theory & Practice*, 11(4), 2036-2043.

Doganay, A., & Ozturk, A. (2011). An investigation of experienced and inexperienced primary school teachers teaching process in science and technology classes in terms of metacognitive strategies. *Educational Sciences: Theory & Practice,* 11(3), 1320-1325.

Downing, K., Kwong, T., Chan, S., & Lam, T. (2009). Problem-based learning and the development of metacognition. *Higher Education,* 57, 609-621.

Drew, C. J., Hardman, M. L., & Hosp, J. L. (2014). *Designing and conducting research in education.* Thousand Oaks: Sage publication.

Eckert, P., & McConnell-Ginet, S. (1992). Think practically and look locally: language and gender as community-based practice. *Annual Review of Anthropology*, 21, 461-490.

Efklides, A. (2006) Metacognition and affect: What can metacognitive experiences tell us about the learning process? *Educational Research Review,* 1(1), 3-14.

Efklides, A. (2008). Metacognition: Defining its facts and levels of functioning in relation to self-regulation and co-regulation. *European Psychologist,* 13, 277-287.

Egege, S., & Kutieleh, S. (2004). Critical thinking: Teaching foreign notions to foreign students. *International Education Journal*, 4(4), 75–85.

Elyas, T., & Alsadi, A. (2013) Critiquing of higher education policy in Saudi Arabia: A neoliberalism approach. *The Asian Conference on Language Learning. Official Conference Proceedings, Osaka, Japan.*

Elyas, T. & Picard, M. (2010). Saudi Arabian educational history: Impacts on English language teaching. *Education, Business and Society: Contemporary Middle Eastern Issues*, 3(2), 136-145.

Erskine, D. L. (2009). *Effect of promoted reflection and metacognitive skill instruction on university freshmen's use of metacognition.* Unpublished PhD thesis, Brigham Young University, USA.

Everson, H. T., & Tobias, S. (1998). The ability to estimate knowledge and performance in college: A metacognitive analysis. *Instructional Science,* 26(1), 65-79.

Fageehi, R. A. (2006). *The risk programme and its effect on the teaching of*

critical thinking amongst female students in the Department of Social Science in Taiba University. Unpublished PhD thesis, Taiba University, Medina, KSA.

Faris, E. M. (2009). *The effectiveness of a program based on multiple competencies in academic achievement and the development of metacognitive skills among high school students in psychology subject.* Unpublished PhD thesis, Umm Al-Qura University, KSA.

Fathima, M. P., Sasikumar, N., & Roja, M. P. (2014). Enhancing teaching of graduate teacher trainees through metacognitive intervention strategies. *American Journal of Applied Psychology*, 2(1), 27-32.

Filipovic, J., & Jovanovic, A. (2016). Academic maturation and metacognitive strategies in academic research and production. *Universal Journal of Educational Research*, 4(6), 1442-1451.

Firestone, W. A., & Pennell, J. R. (1993). Teacher commitment, working conditions, and differential incentive policies. *Review of educational research*, *63*(4), 489-525.

Fisher, J., & Wood, E. (2012). Changing educational practice in the early years through practitioner-led action research: An adult-child interaction project. *International Journal of Early Years Education*, 20(2), 114–129.

Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp. 231-235). Hillsdale, NJ: Lawrence Erlbaum.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. *American Psychologist*, 34(10), 906-911.

Ford, J. K., Smith, E. M., Weissbein, D. A., Gully, S. M., & Salas, E. (1998). Relationships of goal orientation, metacognitive activity, and practice strategies with learning outcomes and transfer. *Journal of applied psychology*, *83*(2), 218-233.

Freire, P. (1970). *Pedagogy of the oppressed.* New York: Continuum.

Frey, J. H., & Fontana, A. (1991). The group interview in social research, *The Social Science Journal*, 28(2), 175–187.

Fryer, R. G. (2011). *Teacher incentive and student achievement: Evidence from New York City Public Schools.* Retrieved 10 January, 2018, from www.nber.org/papers/w16850

Gahwaji, N. (2006). *Designing a tool for evaluating the quality of pre-school education in Saudi Arabia*. Unpublished PhD thesis, University of Exeter, UK.

Garner, R., & Alexander, P. A. (1989). Metacognition: Answered and unanswered questions. *Educational Psychologist,* 24(2), 143-158.

Garret, J., Alman, M., Gardner, S., & Born, C. (2007). Assessing students' metacognitive skills. *American Journal of Pharmaceutical Education*,

71(1), 1-7.

Garrison, D. R., & Akyol, Z. (2013). Toward the development of a metacognition construct for community of inquiry framework. *The Internet and Higher Education*, 17, 84-89

Garrison, D. R., & Akyol, Z. (2015). Toward the development of a metacognition construct for communities of inquiry. *The Internet and Higher Education*, 24, 66-71.

Georghiades, P. (2000). Beyond conceptual change learning in science education: Focusing on transfer, durability and metacognition. *Educational Research*, *42*(2), 119-139.

Georghiades, P. (2004). From the general to the situated: Three decades of metacognition. *International Journal of Science Education*, 26(3), 365-383.

Gibson, J. J. (1986). *The ecological approach to visual perception: The theory of affordances.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Gibson, W. J., & Brown, A. (2009). *Working with qualitative data: An integrated guide*. London: Sage Publication.

Goos, M. (1996, October). *Making sense of mathematics: The teacher's role in establishing a classroom community of practice*. Paper presented at the Annual Postgraduate Research Conference of the Graduate School of Education, Queensland, Australia.

Goos, M., Galbraith, P.L., & Renshaw. P.D. (1994, July). *Collaboration, dialogue and metacognition: The mathematics classroom as a "Community of Practice".* Conference Paper, Australia. Retrieved 24 March, 2018, from https://www.researchgate.net/publication/267680407.

Gourgey, A. F. (1998). Metacognition in basic skills instruction. *Instructional Science*, 26(1/2), 81-96.

Goh, C. (2008). Metacognitive instruction for second language listening development: Theory, practice and research implications. *Regional Language Centre Journal,* 39(2), 188-213.

Graham, S. (1997). *Effective language learning: Positive strategies for advanced level language*. Clevedon: Multilingual Matters, Ltd.

Graham, A., & Phelps, R. (2003). Being a teacher: Developing teacher identity and enhancing practice through metacognitive and reflective learning processes. *Australian Journal of Teacher Education,* 27(2), 11-24.

Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, re-imagining teacher education. *Teachers and Teaching: theory and practice*, 15(2), 273-289.

Guba, E. G., & Lincoln, Y. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105 – 117). Thousand Oaks, CA: Sage Publications.

Gul, F., & Shezad, S. (2012). Relationship between metacognition, goal orientation and academic achievement. *Social Behavioral Sciences,* 47,

1864-1868.

Hacker, D. (1998). Definitions and empirical foundations. In D. J. Hacker, J. Donlosky, & A. C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 1-24). Mahwah, NJ: Lawrence Erlbaum Associates.

Hamdan, A. K. (2014). The road to culturally relevant pedagogy: Expatriate teachers' pedagogical practices in the cultural context of Saudi Arabian higher education. *McGill Journal of Education,* 49(1), 201-226.

Harpe, B. D., & Radloff, A. (2000). Informed teachers and learners: The importance of assessing the characteristics needed for lifelong learning. *Studies in Continuing Education*, 22(2), 169-182.

Hartman, H. (1998). Metacognition in teaching and learning: An introduction. *Instructional Science,* 26, 1-3.

Hartman, H. (2001a). Developing students' metacognitive knowledge and skills. In H. J. Hartman (Ed.), *Metacognition in learning and instruction: Theory, research, and practice (*pp. 33-68). Dordecht, The Netherlands: Kluwer Academic Publishers.

Hartman, H. (2001b). Teaching metacognitively: Developing students' metacognitive knowledge and skills. In H. J. Hartman (Ed.), *Metacognition in learning and instruction: Theory, research, and practice (*pp. 149-172). Dordecht, The Netherlands: Kluwer Academic Publishers.

Hartman, H., & Sternberg, R. (1993). A broad basis for improving thinking. *Instructional Science,* 21, 401-425.

Hoepfl, M. C. (1997). Choosing qualitative research: A primer for technology education research. *Journal of Technology Education,* 9(1), 47-63.

Horsburgh, M. (1999). Quality monitoring in higher education: The impact on student learning. *Quality in Higher Education,* 5(1), 9-25.

Hoy, A. W. (2004, April)). What do teachers need to know about self-efficacy? *Paper presented at the annual meeting of the American Educational Research Association*, San Diego.

Hurme, T., Palonen, T., & Jarvela, S. (2006). Metacognition in joint discussions: An analysis of the patterns of interaction and the metacognitive content of the networked discussions in mathematics. *Metacognition Learning,* 1, 181-200.

Inaba, M. (2006, July) "A CSCL Environment that Promotes Metacognition among Learners in the Community of Practice," Proceedings of 5th International Conference of the Cognitive Science, Vancouver, British Columbia Canada (pp. 121-122).

Ismail, E. A., & Hassan, M. M. (2012). Cultural context and curricular design in Saudi Arabia and other Middle Eastern nations. In J. E. Groccia, M. A. Alsudairi, & W. Buskist (Eds.), *Handbook of college and university teaching: A global perspective* (pp. 279-292). London: Sage Publication.

Ismail, N. M., & Tawalbeh, T. I. (2015). Effectiveness of a metacognitive reading strategies program for improving low achieving EFL readers. *International Education Studies,* 8(1), 71-87.

Izadinia, M. (2012). Teacher educators as role models: A qualitative examination of student teachers' and teacher educators' views towards their roles. *The Qualitative Report*, 17(24), 1-15.

Jakovljevic, M., Buckley, S., & Bushney, M. (2013, June 19-21). *Forming communities of practice in higher education: A theoretical perspective*. In the Proceedings of the Management, Knowledge and Learning International Conference: International Conference, Croatia: Zadar.

Jalil, P. A., & Ziq, K. (2009). Improving of cognitive and meta-cognitive skills of the students in view of the educational practices in the Gulf Region. *Journal of Science Education*, 6(3), 3-9.

Jensen, D. (2008). Credibility. In L. M. Given, et al. (Eds.), *The SAGE encyclopedia of qualitative research methods* (pp. 138-139). London: Sage Publication.

Jewitt, C. (2012). *An introduction to using video for research*. National Centre for Research Methods NCRM Working Paper 03/12. pp. 1-25. Retrieved 31 March, 2017, from: eprints.ncrm.ac.uk/2259/4/NCRM_workingpaper_0312.pdf

Jimenez-Silva, M., & Olson, K. (2012). A community of practice in teacher education: Insight and perceptions. *International Journal of Teaching and Learning in Higher Education,* 24(3), 335-348.

Johansson, R. (2003). *Case study methodology*. Royal Institute of Technology, Stockholm. Retrieved 05 June, 2016, from http://www.psyking.net/htmlobj-3839/case_study_methodology-_rolf_johansson_ver_2.pdf

Jonson, S. M. (1984). Merit pay for teachers: A poor prescription for reform. *Harvard Educational Review*, 54(2), 175-185.

Joseph, N. (2009). Metacognition needed: Teaching middle and high school students to develop strategic learning skills. *Preventing School Failure: Alternative Education for Children and Youth,* 54(2), 99-103.

Kapucu, N. (2012). Classrooms as communities of practice: Designing and facilitating learning in a networked environment. *Journal of Public Affairs Education*, 18(3), 585-610.

Kelemen, G. (2012). Ways to determine students to become competent teachers. *Procedia-Social and Behavioral Sciences*, *47*, 1911-1916.

Kelemen, G. (2015). Developing Professional Knowledge in the Initial Teacher Education. *Procedia-Social and Behavioral Sciences*, 180, 357-364.

Khan, I. A. (2011). An analysis of learning barriers: The Saudi Arabian context. *International Education Studies,* 4(1), 242-247.

Khezrlon, S. (2012). The relationship between cognitive and metacognitive strategies, age, and level of education. *The Reading Matrix,* 12(1), 50-61.

Kitzinger, J. (1994). The methodology of focus groups: The importance of interaction between research participants. *Sociology of Health & Illness,* 16(1), 103-121.

Kluwe, R. H. (1982). Cognitive knowledge and executive control: Metacognition. In D. R. Griffin (Ed.), *Animal mind - human mind (*pp. 201-224). New York: Springer-Verlag.

Knapper, C. K., & Cropley, A. J. (2000). *Lifelong learning in higher education (3rd ed.).* London: Kogan Page Limited.

Kohn, L.T. (1997) *Methods in case study analysis.* The Center for Studying Health System Change. Technical publication No. 2. Retrieved, 29 March, 2016, from: www.hschange.com/CONTENT/158/158.pdf

Kremer-Hayon, L., & Tillema, H. H. (1999). Self-regulated learning in the context of teacher education. *Teaching and Teacher Education*, 15, 507-522.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121-1134.

Kuhn, D. (2000). Metacognitive development. *Current Direction in Psychological Science,* 9, 178-181.

Kuhn, D., & Dean, D. (2004). Metacognition: A bridge between cognitive psychology and educational practice. *Theory Into Practice*, 43(4), 268-273.

Kuiper, R. (2002). Enhancing metacognition through the reflective use of self-regulated learning strategies. *The Journal of Continuing Education in Nursing,* 33(2), 78-87.

Kung. R., & Linder, C. (2007). Metacognitive activity in the physics student laboratory: Is increased metacognition necessarily better? *Metacognition Learning,* 2, 41-56.

Kuzel, A. J. (1999). Sampling in qualitative inquiry. In B. F. Crabtree & W. L. Miller (Eds.), *Doing qualitative research* (pp. 33-45). Thousand Oaks, CA: Sage Publications.

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing.* London: Sage Publications.

Lajoie, S. (2008). Metacognition, self-regulation, and self-regulated learning: A rose by any other name? *Educational Psychology Review*, 20, 469-475.

Lajoie, S. P., & Lu, J. (2012). Supporting collaboration with technology: does shared cognition lead to co-regulation in medicine?. *Metacognition and Learning*, 7(1), 45-62.

Larkin, M., Watts, S., & Clifton, E. (2006). Giving voice and making sense in interpretative phenomenological analysis. *Qualitative Research in Psychology*, 3(2), 102-120.

Lave, J., & Wenger, E. (1991). *Situated learning legitimate peripheral participation*. New York: Cambridge University Press.

Lee, C. B., Teo, T., & Chai, C. S. (2010). Profiling pre-service teachers' awareness and regulation of their own thinking: Evidence from an Asian country. *Teacher Development,* 14(3), 295-306.

Lewis, A. (1992). Group child interviews as a research tool. *British Educational Research Journal*, 18(4), 413-421.

Livingston, J. A. (2003). Metacognition: An overview. Retrieved 26 November, 2016, from https://www.researchgate.net/publication/234755498

Lunenberg, M., Korthagen, F., & Swennen, A. (2007). The teacher educator as a role model. *Teaching and teacher education*, 23(5), 586-601.

Mahdavi, M., & JafarZade, L. (2014). Teachers' metacognitive knowledge and teacher education programs in Iran as an input-poor environment: Training teachers' brains? *Journal of Applied Environmental and Biological Sciences*, 4(7), 218-225.

Mahmood, A. (2012). Role of education in human development: A study of south Asian countries. *Business Review,* 7(2), 130-142.

Malcom, D. (2008). *The sage dictionary of sports studies: Initial teacher education (ITE).* Sage Publications Ltd: London.

Mansour, N., & Alhodithy, A. (2007, September). Cooperative learning in Saudi Arabia schools: Teachers' understanding and intentions. *A paper presented at the British Educational Research Association (BERA) annual conference at Institute of Education, University of London, UK.*

Marshall, M. (1996). Sampling for qualitative research. *Family Practice*, 13(6), 522-526.

Mazi, A., & Altbach, P. G. (2013). Dreams and realities: The world-class idea and Saudi Arabian higher education. In L. Smith & A. Abouammoh, *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 13-26). New York: Springer.

McCormick, C. B., Dimmitt, C., & Sullivan, F. R. (2013).Metacognition, learning, and instruction. Retrieved 26 January, 2016, from https://www.researchgate.net/publication/27050027

McMahon, M., & Luce, J. (2001). Assessing students' self-regulatory skills. Retrieved 28 January, 2017, from http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=5839&context=ecuworks

Meijer, P. C., Verloop, N., & Beijaard, D. (2002). Multi-method triangulation in a qualitative study on teachers' practical knowledge: An attempt to increase internal validity. *Quality & Quantity*, 36, 145–167.

Memnun, D. S. (2013). A comparison of metacognitive awareness levels of future elementary teachers in Turkey and USA. *African Journal of Philosophy,* 1(1), 008-018.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation* (2nd ed.). San Francisco: John Wiley & Sons.

Middle East Watch (1992). *Empty reforms: Saudi Arabia's new basic laws.* New York: Human Rights Watch.

Miles, M. B., & Huberman, M. A. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Ministry of Education (MOE) (2017). *Ministry of Education.* Riyadh: MOE. Retrieved 22 April, 2017, from https://www.moe.gov.sa/en/Pages/default.aspx

Ministry of Higher Education (MOHE) (2010). *Ministry of Higher Education's plan to achieve excellence in science and technology.* Riyadh: MoHE.

Ministry of Higher Education (MOHE) (2014). خطة آفاق [Aafaq plan]. Retrieved 23 April, 2017, from aafaq.info/?page_id=764

Morgan, D. L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1), 48–76.

Morse, J. M., & Field, P. A. (1995). *Nursing research: The application of qualitative approaches* (2nd ed.). London: Chapman & Hall.

Myers, M. (2000). Qualitative Research and the generalizability question: Standing firm with proteus. *The Qualitative Report*, 4, 3-4.

National Commission for Academic Accreditation and Assessment (NCAAA) (2016). Saudi Arabia. Retrieved 20 January, 2016, from https://www.mohe.gov.sa/en/aboutus/…/academic-accrediation.aspx

Naughton, G. M., Rolfe, S. A., & Siraj-Blatchford, I. (2010). *Doing early childhood research: International perspectives on theory and practice (*2nd ed.). London: OUP.

Nelson, G., & Carson, J. (2006). Cultural issues in peer response: Revisiting "culture". In K. Hyland & F. Hyland, *Feedback in second language writing: Contexts and issues* (pp. 42-59). New York: Cambridge University Press.

Nelson, T. O. (1996). Consciousness and metacognition. *American Psychologist*, 51(2), 102-116.

Nes, F., Abma, T., Jonsson, H., & Deeg, D. (2010). Language differences in qualitative research: Is meaning lost in translation? *European Journal of Ageing,* 7, 313-316.

Nickerson, R. S., Perkins, D. N., & Smith, E. E. (1985). *The teaching of thinking.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Nietfeld, J. L., Cao, L., & Osborne, J. W. (2005). Metacognitive monitoring accuracy and student performance in the postsecondary classroom. *The Journal of Experimental Education*, 74(1), 7-28.

Niemi, H. (2002). Active learning: A cultural change needed in teacher education and schools. *Teaching and Teacher Education*, 18, 763-780.

Niemi, H., Nevgi, A., & Aksit, F. (2016). Active learning promoting student teachers' professional competences in Finland and Turkey. *European Journal of Teacher Education*, 39(4), 471-490.

Nneji, L. M. (2002). Study habits of Nigerian university students. *HERDSA*, 490-496.

Nool, N. (2012). Exploring the metacognitive processes of prospective mathematics teachers during problem solving. *International Conference on Education and Management Innovation IPEDR*.

Ogle, D. M. (1986). K-W-L: A teaching model that develops active reading of expository text. *The Reading Teacher*, 39(6), 564-570.

O' Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. New York: Cambridge University Press.

Oman Academic Accreditation Authority (OAAA) (2016). Oman. Retrieved 19 January, 2016, from http://www.oaaa.gov.om/ar/Default.aspx

Onsman, A. (2010). Dismantling the perceived barriers to the implementation of national higher education accreditation guidelines in the Kingdom of Saudi Arabia. *Journal of Higher Education Policy and Management*, 32(5), 511-519.

Onwuegbuzi, A., & Leech, N. (2007). Sampling design in qualitative research: Making the sampling process more public. *The Qualitative Report*, 12, 238–254.

Oppong, S. H. (2013). The problem of sampling in qualitative research. *Asian Journal of Management Sciences and Education,* 2(2), 202- 210.

Oyaid, A. A. (2009). *Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in education.* Unpublished PhD thesis, University of Exeter, UK.

Oz, H. (2015). Investigating pre-service English as a foreign language teachers' metacognitive awareness. In H. Oz (Ed.*), Language and communication research around the globe: Exploring untested ideas*
(pp. 35-58.) New York, NY: United Ideas Research Center.

Ozturk, N. (2011). *Investigating pre-service science teachers' informal reasoning, epistemological beliefs and metacognitive awareness regarding socioscientific issues: A case for nuclear power plant construction. Unpublished* Master dissertation, Middle East Technical University, Turkey.

Ozturk, N. (2016). Analysis of pre-service elementary teachers' understanding of metacognition and pedagogies of metacognition. *Journal of Teacher Education and Educators*, 5(1), 47-68.

Page, C. F (1984). Operation bootstrap: Reflection of a staff developer. *Higher Education Research & Development,* 3(1), 3-12.

Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review Psychology,* 49, 345-375.

Palinscar, A. S., & Brown, A. L. (1983). Reciprocal Teaching of Comprehension-Monitoring Activities, *Technical Report* No. 269. Retrieved 22 July, 2017, from https://www.ideals.illinois.edu/bitstream/handle/2142/17612/ctrstreadtec hrepv01983i00269_opt.pdf

Papaleontiou-Louca, E. P. (2008). *Metacognition and theory of mind*. Retrieved 28 January, 2017, from http://www.cambridgescholars.com/download/sample/59586

Paris, S. G., & Paris, A. H. (2001). Classroom applications of research on self-regulated learning. *Educational Psychology,* 36(2), 89-101.

Paris, S. G., & Winograd, P. (1990). How metacognition can promote academic learning and instruction. In B. F. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction (*pp. 15-51). Hillsdale, NJ: Lawrence Erlbaum.

Passi, V., Johnson, S., Peile, E., Wright, S., Hafferty, F., & Johnson, N. (2013). Doctor role modelling in medical education: BEME Guide No. 27. *Medical teacher*, *35*(9), e1422-e1436. Retrieved 25 March, 2018, from https://www.researchgate.net/publication/245536986

Patton, M. (1990). *Qualitative evaluation and research methods.* Beverly Hills, CA: Sage Publications.

Perkins, D. N. & Salomon, G. (1992). Transfer of learning, Contribution to the International Encyclopedia of Education, Second Edition. Oxford, England: *Pergamon Press*. 1-13.

Peteranetz, M. S. (2014). *Fostering metacognition in middle school classroom: An exploration of teachers' practices*. Unpublished Master dissertation, University of Nebraska-Lincoln, Nebraska, USA.

Private Universities Council (PUC) (2016). Kuwait. Retrieved 19 January, 2016, from http://www.4icu.org/institutions/kw/706.htm

Prokhovnik, S. J. (1982). Learning to teach. *Higher Education Research & Development*, 1(1), 63-68.

Prokop, M. (2003). Saudi Arabia: The politics of education. *International Affairs*, 79(1), 77-89.

Prytula, M. P. (2012). Teacher metacognition within the professional learning community. *International Education Studies*, 5(4), 112-121.

Radnor, H. A. (2001) *Researching your professional practice: Doing interpretive research*. Philadelphia: Open University Press.

Rahimi, M., & Katal, M. (2011). Metacognitive strategies awareness and success in learning English as a foreign language: An overview. *Social and Behavioral Sciences,* 31, 73-81.

Rahman, F., & Masrur, R. (2011). Is metacognition a single variable? *International Journal of Business and Social Science*, 2(5), 135-141.

Rahman, S., Yasin, R. M., Ariffin, S., Hayati, N., & Yusoff, S. (2010). *Metacognitive skills and the development of metacognition in the classroom.* Retrieved 28 January,2017, from www.wseas.usle-library/conferences/2010/japan/EDU-58.pdf

Rajab, A. (2016). The idea of autonomy in child-centered education: The preschool in Saudi Arabia as a case study. *The European Conference on Education 2016, Official Conference Proceedings.* Retrieved 18 July, 2017, from http://papers.iafor.org/papers/ece2016/ECE2016_23242.pdf

Rampp. L. C.. & Guftey. J. S. (1999). *Metacognition: A new implementation model for learning*. Arkanas: Arkanas State university. (ERIC Document Reproduction Service No. ED 440088).

Ramsden, P. (1987). Improving teaching and learning in higher education: The case for a relational perspective. *Studies in Higher Education*, 12(3), 275-286.

Ricardo, C. (2001, July). Metacognition and didactic tools in higher education. *Proceedings of 2nd International Conference on Information Technology-Based Higher Education and Training. Kumamoto, Japan.*

Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (2013*). Qualitative research practice: A guide for social science students & researchers (*2nd ed.). London: Sage publications.

Robson, C. (1993). *Real world research: A resource for social scientists and practitioner-researchers*. Cambridge: Blackwell.

Robson, C. (2011). *Real world research: A resource for users of social research methods in applied settings* (3rd ed.). Cornwall: Wiley-Blackwell.

Romanowski, M. H., & Nasser, R. (2012). How critical thinking is taught in Qatari independent schools' social studies classrooms: Teachers' perspectives. *International Journal of Education*, 4(1), 68–93.

Rowlands, B. (2005). Grounded in practice: Using interpretive research to build theory. *The Electronic Journal of Business Research*, 3(1), 81–92.

Rugh, W. A. (2002). Arab education: Tradition, growth and reform. *The Middle East Journal*, 56(3), 396-414.

Sandi-Urena, S., Cooper, M., & Stevens, R. (2011). Enhancement of metacognition use and awareness by means of a collaborative intervention. *International Journal of Science Education*, 33(3), 323-340.

Saudi Press Agency (2011, September, 22). توصيات / المعلم لإعداد المؤتمرالرابع [The fourth conference of teacher preparation / recommendations]. Retrieved 22 June, 2013, from http://www.spa.gov.sa/viewstory.php?newsid=927510

Savin-Baden, M. & Major, C. H. (2013). *Qualitative research: The essential guide to theory and practice*. New York: Routledge.

Schelin, J., & Rådström, P. (2014). To learn how to learn! Integrating a metacognitive approach in lectures. Retrieved 28 January, 2017, from https://www.lth.se/fileadmin/lth/genombrottet/konferens2014/55_Schelin_R adstrom.pdf

Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, 26, 113-125.

Schraw, G. (2000). Assessing metacognition: Implications of the Buros symposium. In G. Schraw & J. G. Impara (Eds.), *Issues in the Measurement of Metacognition* (pp. 297-332). Nebraska: Buros Institute of Mental Measurement.

Schraw, G., Brooks, D. W., & Crippen, K. J. (2005). Using an interactive, compensatory model of learning to improve chemistry teaching. *Journal of Chemical Education*, 82(4), 637-640.

Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, 19(4), 460–475.

Schraw, G., & Graham, T. (1997). Helping gifted students develop metacognitive awareness. *Roeper Review,* 20(1), 4-8.

Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychological Review*, 7(4), 351-371.

Schwandt, T. A. (1994). Constructivism, interpretivist approaches to human inquiry. In N. Denzin & Y. Lincoln (Eds.). *Handbook of qualitative enquiry* (pp. 118–137). Thousand Oaks, CA: Sage Publications.

Schwandt, T. A. (2001). *Dictionary of qualitative inquiry* (2nd ed.). Thousand Oaks, CA: Sage Publication.

Scott, B. M. (2008). *Exploring the effects of student perceptions of metacognition across academic domains.* Unpublished PhD thesis, Indiana University, Indiana, USA.

Selamat, S., & Sidhu, G. K. (2011) Student perceptions of metacognitive strategy use in lecture listening comprehension. *Language Education in Asia*, 2(2), 185–198.

Shahrouri, M. (2014). The relationship between metacognitive processes level in mathematics and general intelligence among tenth grade students at Hail District. *Global Science Research Journals*, 2(5), 135-141.

Shakir, M. (2002) The selection of case studies: Strategies and their applications to IS implementation cases studies, *Res. Lett. Inf. Math. Sci.*, 3(1), 191-198.

Shawer, S. F. (2013). Initial teacher education: Does self-efficacy influence candidate teacher academic achievement and future career performance?. *Journal of Further and Higher Education*, 37(2), 201-223.

Shenton, A. K. (2004) Strategies for ensuring trustworthiness in qualitative research projects. *Educational for Information*, 22, 63–75.

Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher,* 15(2), 414.

Siggelkow, N. (2007) Persuasion with case studies. *Academy of Management Journal*, 50(1), 20–24.

Sim, C. (2006). Preparing for professional experiences – Incorporating pre-service teachers as "community of practice." *Teaching and Teacher Education,* 22(1), 76-83.

Simons, H. (2009). Case study research in practice. London: Sage Publication.

Simpson, E. (2002). *The development of critical thinking in Saudi nurses: An ethnographical approach*. Unpublished PhD thesis, Queensland University of Technology, Australia.

Smith, L., & Abouammoh, A. (2013). Higher education in Saudi Arabia: Reforms, challenges and priorities. *Higher Education Dynamics*, 40, 1-12.

Snoek, M., Stegerm C., & Worek, D. (2015). Shaping career-long perspectives on teaching: a guide on policies to improve Initial Teacher Education. *European Commission,* Education & Training 2020 p Schools Policy, Retrieved 23 March, 2018, from ec.europa.eu/dgs/education_culture/repository/education/library/reports/initial-teacher-e

Soden, R., & Maclellan, E. (2006). Helping education undergraduates to use appropriate criteria for evaluating accounts of motivation. *Studies in Higher Education*, 30(4), 445–458.

Sternberg, R. J. (1998). Metacognition, abilities, and developing expertise: What makes an expert student? *Instructional Science*, 26, 127-140.

Sternberg, R. J. (2009). Foreword. In D. J. Hacker, J. Dunlosky & A. C. Graesser (Eds.), *Handbook of Metacognition in Education* (p. viii). New York: Routledge.

Stofflett, R. T., & Stoddart, T. (1994). The ability to understand and use conceptual change pedagogy as a function of prior content learning experience. *Journal of Research in Science teaching*, 31(1), 31-51.

Streb, C. (2010). Exploratory case study. In A. Mills, G. Durepos & E. Wiebe, (Eds.). *Encyclopedia of case study research* (pp. 372–374). Thousand Oaks, CA: Sage Publications.

Sungur, S., & Senler, B. (2009). An analysis of Turkish high school students' metacognition and motivation. *Educational research and evaluation,* 15(1), 45-62.

Swan, K. (2005). A constructivist model for thinking about learning online. In J. Bourne & J. C. Moore (Eds.), *Elements of quality online education: Engaging communities* (pp. 13-30). Needham, MA: Sloan-C.

Tanner, H., & Jones, S. (2000, December). *Using ICT to support interactive teaching and learning on a secondary mathematics PGCE course*. Paper presented at the Annual Meeting of the Australian Association for Research in Education,Sydney, Australia.

Tanner, K. D. (2012). Promoting student metacognition. *Cell Biology Education*, 11(2), 113-120.

Taylor-Powell, E., & Renner, M. (2003). Analyzing qualitative data. *University of Wisconsin-Extension*, 1, 1-10.

Teaching and Learning Center, University of Nebraska-Lincoln (n.d). *Question Types.* Retrieved 21 November, 2016, from http://www.lamission.edu/devcom/ProbingQuestions.htm

Temel, S., Ozgur, S. D., Sen, S., & Yilmaz, A. (2012). The examination of metacognitive skill levels and usage of learning strategies of preservice chemistry teachers. *Procedia-Social and Behavioral Sciences*, 46, 1445-1449.

The College of Education Guidelines (COE) (2015). Retrieved 2nd July, 2017, from https://www.kfu.edu.sa/en/Colleges/Education/Pages/Home-new.aspx

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246.

Thomas, G. (2011). *How to do your case study: A guide for students and researchers*. London: Sage Publications.

Thomas, G., Anderson, D., & Nashon, S. (2008). Development of an instrument designed to investigate elements of science students' metacognition, self-efficacy and learning processes: The SEMLI-S. *International Journal of Science Education,* 30(13), 1701-1724.

Thomas, K. M., & Barksdale-Add, M. A. (2000). Metacognitive processes: Teaching strategies in literacy education courses. *Reading Psychology*, 21, 67-84.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357.

UNESCO (2005). *Education for human development*. Brazil: UNESCO.

VanZile-Tamsen, C. M. (1996). *Metacognitive self-regulation and the daily academic activities of college students*. Unpublished PhD thesis, State University of New York, Buffalo, USA.

Vassall-Fall, D. (2011). Arab students' perceptions of strategies to reduce memorization. *Arab World English Journal*, 2(3), 48-69.

Veenman, M. V. J., Prins, F. J., & Elshout, J. J. (2002). Initial learning in a complex computer simulated environment: The role of metacognitive skills and intellectual ability. *Computers in Human Behavior,* 18, 327-342.

Veenman, M. V. J., Van Hout-Wolters, B., & Afflerbach, P. (2006). Metacognition and learning: Conceptual and methodological considerations. *Metacognition and Learning*, 1(1), 3-14.

Veenman, M. V. J., & Verheij, J. (2003). Teaching students metacognitive skills: Relating general vs. specific metacognitive skills to study success. *Learning and Individual Differences*, 13(3), 259-272.

Veenman, M. V. J., Wilhelm, P., & Beishuizen, J. J. (2004). The relation between intellectual and metacognitive skills from a developmental perspective. *Learning and Instruction*, 14(1), 89-109.

Velzen, J. H. (2012). Teaching metacognitive knowledge and developing expertise. *Teachers and Teaching: Theory and Practice.* 18(3), 365-380.

Vermunt, J. D. (1996). Metacognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis. *Higher Education*, 31(1), 25–50.

Vermunt, J., & Verloop, N. (1999). Congruence and friction between learning and teaching. *Learning and Instruction*, 9(3), 257–280.

Vrieling, E., Bastiaens, T., & Stijnen, S. (2012). Consequences of increased self-regulated learning opportunities on student teachers' motivation and use of metacognitive skills. *Australian Journal of Teacher Education*, 37(8), 102-117.

Vos, H. (2001). *Metacognition in higher education*. Unpublished PhD thesis, Twente University, Netherlands.

Wagner, R. K., & Sternberg, R. J. (1984). Alternative conceptions of intelligence and their implications for education. *Review of Educational Research,* 54(2), 179-223.

Wall, K. (2014, October). Teachers as metacognitive role models. Durham University. *Paper presented at the Symposium on Dialogic Teaching, Masaryk University*. Retrieved 31 August, 2017 from https://www.researchgate.net/publication/272347955_Teachers_as_metac ognitive_role_models_-_thinkpiece5

Wall, K., & Hall, E. (2016). Teachers as metacognitive role models. *European Journal of Teacher Education*, 39(4), 403-418.

Wall, K., Hall, E., Baumfield, V., Higgins, S., Rafferty, V., Remedios, R. Thomas, U., Tiplady, L., Towler, C., & Woolner, P. (2010). *Learning to Learn in Schools Phase 4 and Learning to Learn in Further Education Projects: (Annual Report).* London: Campaign for Learning.

Walsham, G. (1995). The emergence of interpretivism in IS research. *Information Systems Research*, 6(4), 376–394.

Watson, A. (2003). Opportunities to learn mathematics. *Mathematics education research: Innovation, networking, opportunity*, 29-38.

Watson, J. (2000). Constructive instruction and learning difficulties. *Support for Learning*, 15(3), 134-140.

Watts, M., & Ebbutt, D. (1987). More than the sum of the parts: Research methods in group interviewing. *British Educational Research Journal*, 13(1), 25–34.

Welch, T. (2012, February). Teacher development: What works and how can we learn from this and maximise the benefits. In *Presentation at the Teachers' Upfront meeting, Wits School of Education*.

Wellington, J. J. (2000). *Educational research: Contemporary issues and practical approaches.* London: Continuum.

Wen, Y. H. (2012) A study on metacognition of college teachers. *The Journal of Human Resource and Adult Learning*, 8(1), 80–91.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge University Press.

Wenistein, C. E., & Hume, L. M. (1998). *Study strategies for lifelong learning.* Washington, D. C: American Psychology Association.

Wilson, N, S., & Bai, H. (2010.). The relationships and impact of teachers' metacognitive knowledge and pedagogical understandings of metacognition. *Metacognition Learning*, 5(3), 269-288.

Yacoub, N, N. (2016). *The level of metacognition among a sample of students at King Khalid University (Bisha branch).* Retrieved 8 February, 2016, from www.kku.edu.sa>news-tags

Yassin, M. F., El-Omari, A. H., & Al-Barri, Q. N. (2013). Metacognitive thinking skills of Arabic teachers and their basic stage students in Jordan: Evaluation study. *Journal of Education and Practice*, 4(14), 87-97.

Yeşilyurt, E. (2013). An analysis of teacher candidates' usage level of metacognitive learning strategies: Sample of a university in Turkey. *Educational Research and Reviews,* 8(6), 218-225.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Youssef, J. (2009). *The effect of computer programs in the light of two sides of brain theory on developing metacognitive skills at IT subject on eleventh*

grade students in Gaza. Unpublished Master dissertation, The Islamic University of Gaza, Palestine.

Yusri, G., Rahimi, N. M., Shah, P. M., & Wah, W. H. (2013). Cognitive and metacognitive learning strategies among Arabic language students. *Interactive Learning Environments,* 21(3), 290-300.

Yusuff, K. B. (2015). Does self-reflection and peer-assessment improve Saudi pharmacy students' academic performance and metacognitive skills? *Saudi Pharmaceutical Journal*, 23, 266-275.

Zhang, L., & Seepho, S. (2013). Metacognitive strategy use and academic reading achievement: Insights from a Chinese context. *Electronic Journal of Foreign Language Teaching,* 10(1), 54-69.

Zohar, A. (1999). Teachers' metacognitive knowledge and instruction of higher order thinking. *Teaching and Teacher Education,* 15(4), 413-429.

Zohar, A. (2006). The nature and development of teachers' metastrategic knowledge in the context of teaching higher order thinking. *Journal of the Learning Sciences,* 15(3), 331-377.

Zohar, A., & Ben David, A. (2009). Paving a clear path in a thick forest: A conceptual analysis of a metacognitive component. *Metacognition and Learning*, 4 (3), 177-195.

Zohar, A., & Schwartzer, N. (2005). Assessing teachers' pedagogical knowledge in the context of teaching higher order thinking. *International Journal of Science Education*, 27(13), 1595-1620.

Zoubi, A. (2008). The monitoring of some of metacognitive skills used by mathematics teachers and their students during the solving of engineering problems in the high grade level in Jordan. *The Journal of Damascus University*, 24, 333–357.

Zucker, D. M. (2009). How to do case study research. Retrieved 8 February, 2016, from http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1001&context=nursing_faculty_pubs

Appendices

Appendix A: College of Education preparatory year Modules

First Year

First Academic Level:

Course Name	Code	Number	Previous Requirement	Units		
				Certified	Theoretical Hour	Practical Hour
Contemporary Islamic Creeds and Doctrines	SLM101	7401101	-	2		
Arabic Writing	ARB102	7402102	-	2		
English Language	NGL101	1700101	-	3		
Education Principles	TRB102	0232102	-	2		
Psychology Principles	NFS101	0232101	-	2		
Educational Statistics Principles	NFS103	0232103	-	2		
Introduction to Special Education	KAS104	0230104	-	2		
Health and Fitness	BDN101	0231101	-	2		
Total				17		
Overall accredited hours for the first level = 17 hours						

Second Academic Level:

Course Name	Code	Number	Previous Requirement	Units		
				Certified	Theoretical Hour	Practical Hour
Contemporary Cultural Issues	SLM301	7401301	-	2		
Intellectual Interests	ARB103	7402103	-	2		
Educational Research Skills	TRB201	0232201	-	2		
Growth Psychology	NFS132	0232132	-	2		
Curricula Development and Construction	NHG201	0233201	-	2		
Educational Management	ADR600	0234600	-	2		
Educational techniques	TKN201	0227201	-	2		
College Selection (1) (optional course)	-	-	-	2		
No of Hours				16		
Overall accredited hours for the second academic level = 16 hours						

Appendix B: A structured Observation Schedule

Lecturer Name: . **Department:**

Date: **Time:**   **Room:**   **Students' Numbers:**

Lesson: Course Title:

Teaching strategies used: Lecture.   Discussion.   Group-discussion   Dialogue.   Role-play.
Others……

Skill	No	Sub-skills	Frequency	Time in lesson	Time spent on	Note
Planning	1	Students are asked by the lecturer to predict the class session goals.				
	2	Lecturer tries to activate students' prior knowledge with respect to the class session topic **(a quicker question, pre-assessment, others)**				
	3	Students are encouraged by lecturer to predict the content of the subject matter				
	4	Students are encouraged by lecturer to suggest strategies that is best to facilitate their learning **(lecture, discussion, group discussion, role- play, etc)**				
	5	Students are encouraged by teacher to predict learning resources that would support students' learning during the class.**(power point, articles, film, audio, e-learning resource, hand out, books etc)**				
	6	Students are asked by teacher to select their own strategy that they perceive the best for their learning. **(eg. A place to sit, taking notes, writing questions, quietness, attention)**				
	7	The sequence of learning tasks has been considered.				
	8	A clear attention has paid towards the distribution of the lecture time on each part of the session.				
Monitoring	9	To check students understanding the lecturer asked them to distinguish important information from details.				
	10	To check students understanding the lecturer asked them to find out relations between **(the topic's parts, the current topic and previous topic, the topic and other subject area, their personal life).**				
	11	The students are asked by lecturer to share points that confuse them with the rest of the classroom.				
	12	Students are given a chance to ask questions that are arising during the class session.				
	13	The lecturer checks students' understanding after each part of the lesson.				
	14	The students are encouraged by lecturer to analyze elements that limit their understanding of the topic **(either orally or in writing)**				
Evaluating	15	The lecturer encourage students to summarize in their own words what they have learnt from today's session (orally or in writing)				
	16	The lecturer checks the achievement of today's class session goals **(a quicker exam, asking questions, homework, other)**				
	17	The lecturer discuss with students what the most helpful aspects or strategies used				
	18	The lecturer discuss with students what the most less helpful aspects or strategies used				
	19	Students are encouraged to suggest alternatives teaching strategies/learning activities/plan to those proposed by lecturer to support theirs' learning.				
	20	Lecturer questions are: content question, process question, Explanation questions, thinking questions, monitoring questions, reviewing questions.				

Note:

………
………

Appendix C: Unstructured Observation Card/ Field Notes Card

Section One: General Information

Lecture Name		Room			
Department		Number of Students			
Date		Lesson Title			
Time		Course Title			
Teaching Strategies					

Section Two: The Teaching Process

Time	Input	Observation	General Note
	T		
	S		

MS: Metacognitive Skills, P: Planning, M: Monitoring, E: Evaluating.
MQ: Metacognitive Questions, TL: Thinking Language: T: Teacher, S: Student.

Appendix D: An Example of a Lecture Room Observation

Kindergarten Department

Section One: General Information

Lecture Name	Noria	Room	1043
Department	Kindergarten	Number of Students	54
Date	5 Mar 2015	Lesson Title	Kindergarten teacher- activity management inside the class room
Time	7:30-9:30	Course Title	Environmental Education
Teaching Strategies	Lecturing		

Section Two: The Teaching Process

Time	Input	Observation	General Note
7:45	L L L S L	Noria: Today we will resume the previous lesson; Let's take some feedback We spoke in the previous lecture about the psychological, social, and physical condition of the kindergarten teacher. Noria: Physical: good health, energy, vigor and has undamaged senses. (she can see, listen, hear, and touch as well), as previously mentioned these are needed for her to be able to monitor the children. Noria: By physical we mean she has no deformity or amputation (she has not lost any part of her body), **A student:** so the child will not be afraid of her, as she is an example for him. Noria: Psychological and social: patient, and well balanced emotions. She has no depression. If she has depression the child will be depressed also.	1) Teaching method: Lecturing 2) Type of questions: • **Recalling question** • Structure question • **Introducing question** (the lecturer asked the question to introduce the next section, then, she answers the question herself) • Few reasoning questions i.e. why? • No time giving for the students to think and to answer the questions • Lecturer's question did not encourage thinking or MC or MS • Most students answer 'we', collective answers (students answer at the same time) • No thinking language appeared • The lecturer links some information to students' future career (kindergarten) • ***The lecturer links information to previous lecturers.*** • The lecture time did not use effectively. The lecture finished 50 minutes before the actual time.
7:47	L	Noria: today we continue IF these aspects are present within the teacher she can work effectively, also this has a big impact on the behavior of the child, be it negative or positive.	
7:48	L L S L	Nadia: We will also see how the teacher manages the activity room Q: Can the teacher manage the activity room? **A student:** Yes **Noria:** yes, teacher: evaluates the tools, time, activities and the nature of her were Noria: there are 4 actions for managing activities: 1) Organising the place 2) Organising the time 3) Organising the tools and equipment 4) Organising the activity	
7:49		Noria: Organizing the place: when I organize the place to work with children, I consider many things 1) The type of experience presented to the child 2) Characteristics of the child, **like what?** Violent, aggressive, how he deals with peers. The teacher has experience with each child and deals with them based on this. For example, I know that for the girls, one student sits behind me to talk. The teacher must be smart, for example, the stubborn child should be next to her under her gaze. As a practical education supervisor, I sit behind the student explaining and her assistant is with her, and the student is sitting with her. I see everything, if a girl pulls another's hair, a boy takes something from the boy next to him, so when the teacher is explaining she must monitor these things. 3) The lesson plan, the preparation: **what will I teach?** 4) The way to presenting an individual and group activity We said that we started with individual activity then group activity: Every lecture, song, and experience has a specific session to get it correct 5) As for the place, I have to consider many things such as arranging the hall for	

		the lecture but also making it attractive to the child and comfortable, as well as expressive of the experience. For example in kindergarten we have units like 'my health, safety and nation', and for example each unit lasts two weeks. The form of hall and activities must be suitable for these things for the child. How to place the tools, we always say the tools must be within reach of the child.
7:53	L	Time planning: the planning time takes the energy from teacher and will consume all the energy of the children where possible. When the child escapes from you or you loose him, that means the activity is boring for him or the activity doesn't attract him. His silence points to this also. I would like to talk with you about the form of time to understand not memorize. If you memorize it, I will not use the slide for it.
7:57	L L S L	As for the time, we will move to kindergarten. I have 5 activities. **What are they?** circle time- outside game- meal- corners- the final meeting. 8: 04 **Is there a specific time for every activity?** Yes, circle time 30 minutes. It starts 7:30 and ends 8:05. **Why did you specify 30-35?** Outside game is an hour from 8:10 to 9:10. The meal is 30 minutes from 9:15 to 9:45. Corners from 9:50 to 10:50. The final meeting is 15 minutes. There is a a schedule for everything. **Why did we specify a half hour for the circle time and an hour for outside game?** Some students tried to answer. Teacher: in the circle, there is information, and oral explanation, I use equipments and tools. The child cannot receive information for long time.
7: 58	L	Noria**: why is there playing outside for an hour?** The lecturer answered the question by herself; Because I have to organize my time. The children go out of the hall in 7-8 minutes. The children warm-up instead of moving how they want. When we finished playing outside, we give time to the child if he played in the sand or with the toys he must wash his hands. All of that is time planning (according to schedule) cause there is a break.
8:00	L L	The meal: You have to estimate the time that you need. There is fast food and there are proper meals like in Egypt where there is a healthy meal contains vegetables and rice. As a trained teacher, we must make a healthy meal and give the child space. You must also keep an eye on the time. You must teach the child the order of things, you are a role model. Your eyes are always on the clock. Corners: discover, reading, imagination, comprehension, family, and art expression.
8:03	L	As a teacher, for example Ms. Noria, you must do each corner. You ask the trainee students to do three corners. The child finished the meal then he has time out for (washing hands, organize an activity, the activity is he washes his hands as an example). The final meeting: finally you ask (we end the meeting by asking) the child what happened today and give to him a way to express this: activity, song, puppet play The teacher must put in her consider all time outs
8:04	L L L L	Nuria: The teacher must put into her consideration the children's different levels. (the teacher mentioned all kindergarten phases according to the age **Noria/ are all the games suitable for all levels?** The lecturer answered that she considered the child's level and the activity inside and outside of the class or (out the kindergarten) such as visiting the park. Q: Do you understand the thing? **I will ask? I will ask** There are things I consider when organizing time 1) The activity must be calm and comfortable 2) And appropriate for the age of the children 3) The capacity of the child to pay attention and absorb, **even for you girls**, you are focused in the first 20 minutes, so I change the color of the markers to regain your focus and to activate you. Time of gathering the children , distribution of the work period inside the room, the meal, children leaving.
8:06	L L S L L L	Come, to talk about the organization of tools, equipments and materials. 1- Make sure the equipments work well and safe. Why? A student. Because the child will get hurt Noria: because the child use his hand to catch anything, even the paper could hurt him. 2- Anything that I give to the child must be solid and a whole piece (unconnected), if it is small pieces maybe they will fell down and hurts him. 3-the way of maintaining them is **Q: how?** For example: when I bring these things home, like equipment when I use it , I put it in a box. As a teacher I must make sure I put it correctly because maybe I will ask the child to bring this tool or maybe another teacher needs to use it. 4-the tool must be flexible. It must be easily moveable in a way that is easy for their age
8:08	L	Fourth: Organizing activities

		L	There is an individual activity (teacher + child is alone) children join in a group activity with the teacher (song)- the teacher brings tools, clothes or puppets for example in celebration of national day the children can wear an officers uniform with a toy gun.	
		L	The activity is not limited the activities room only. It also depends on how to present the experience such as through explanation – for example explanation, the screen, the running line- the children design some activities through the corners such as designing visiting cards. The child in the kindergarten has responsibilities. We divided his responsibilities according to his roles like leader or distribute cards. He gains these experiences.	
8:11		L	Noria: What is the method of the teacher with children from the beginning school day?	
		L	She meets them smiley **as I told you.**	

		L	1) Welcoming students with smile
			2) She prepares herself before entering the classes like in the beginning we collect children to prepare them by asking them if they visited the Al-Kifah kindergarten. They make a queue and every teacher does something. The unit was about launch.
			    - What did you read?
			    - Presented a song
			    - Presented the children with song and they repeated after her
			    - Offered logos – banner- signs about lunch
			3) Prepare the situation in an interesting way to attract children
			4) Ask about the day and date and weather cause as we said we must improve and grow the child's observation ability by him noting the things around him, for example, How is the weather today in your way to kindergarten?
			5) Preparing for national ceremonies	

		L		
		L	Are there other roles the teacher plays with parents?	
			In Egypt we have parents meetings. No difference between those and the mothers meetings here because mothers consult fathers always.	
		L	When I host a meeting: 1) I make a notice of the time and date, goal, and the purpose of the meeting, for example, a problem with the child.	
		L	2) Make mother realize that the cooperation between home and kindergarten is important so the systems do not conflict	
		L	3) Also inside the kindergarten, confirming the child's attendance is important according the schedule because the child must learn the schedule	
		L	4) Making sure the child leaves on time is important as (for example) yesterday a mother came to take her child from kindergarten around 10 o'clock so, he cried cause he wanted to do activities with the teacher	
		L	5) Stressing the importance playing and toys. Telling mother that she has to focus on the toys suitable for the child's age because that has big benefit which is gained by playing as development of action, skills, and realization..	
		L	6) Motivating mothers to visit the kindergarten a lot. Why? Lecturer gave hints to students:	
		L	**Students**: enthusiasm- child loves kindergarten- supporting child	
			Is there anything not understood, girls? Students: no	
		L		
		L		
		S		
		L		
8:25		L	Environmental education program as a complimentary part of a full program in kindergarten:	
		L	*We mentioned in lecture 1, 2 environment education*	
		L	1) Environment education program or measures and principles Growing of natural resources and was to conserve them *You remember when we spoke about the goals of environment education* goals and their connection. Each goal has a function. The program will not leave the goals or porpose behind, I create a programe with goals, we introduce children to natural resources, building an understanding of this, I give him a set of criteria to be assessed on. And the connection between them. Every aim has job such as we understand building by natural sources. I put a standard to measure on it.	
		L	2) We spoke about things and the child clarifies indications that point to waste and loss of these resources	
		L	3) *Remember that we spoke about domestic and government institutions* and we show a video. When I do the activity, I have to explain to the child that there	

	L	are institutions. We also talked about what things did we take from the video?	
	L	4) Explain things that show abuse of resources use and its negative effects. What else? When we spoke about lighting. For example the child turns off the light for that I have to teach him right way. When I create a program I explain these things	
	L	5) We spoke about humans, animal, and plant and its fields. There is a relation happening between all of them. Animal eats plant and human eats animal. We clarify the relation between humans and other creatures.	
	L	6) *We spoke* about conscience and explained for you a personal example, and another example to build environmental conscience such as don't pick at plants, and I guide the child's behavior	
	L	7) We showed a video about people are working together such as (street ,lane, or neighborhood) encouraging the idea of cooperation between people and organizations to advance natural resources	
8:32	L	Well, you remember when we spoke about environment education, **what is this?**	
	S	A students: formal and informal institutions exerting efforts to give citizens environment knowledge.	
	L	8) We spoke about activities: and achieving these activities	
		9) Cooperation between kindergarten as educational environment and the family	
	L	**What is the kindergarten's environmental education?** A student answered	
	L	10) Prepare the child with information, and principles about the environment and its natural sources	
	L	11) Building the right attitudes about environment and development. The program must point to these things and how I seek to develop the child in the right directions.	
8:37	L	12) Continuing evaluation for the environment education program. We said we did that before, throughout, and after. I observe continuing evaluation. We also spoke about a part in the teacher's correction. When you explain, evaluate yourself by looking at children faces. You can make information less difficult this way. If you find the child isn't interested change the manner, performance, or method	
	L	When I spoke about environmental awareness, I consider that information must be suitable the child's abilities.	
	L	**Why?** Doesn't he just need to know the information and obtain it? And only own it (has it)	
	L	I put him in a problem satiation to know it and solve the environmental problem. Maybe I create a problem. **Like what?** T.	
	S	A student: plucking flowers- garbage- faucets – water spouts	
	L	I do something see how he can solve the problem? In solving the problem, I must consider differences between children and their abilities to understand the problem.	
	L	I don't bring old things in environmental education .I must bring modern (current) or futuristic	
	L	After doing these things I focus on current and futuristic things I enhance the value of cooperation value Is there anything you don't understand? lecture is over.	
8:40			

MS: Metacognitive Skills, P: Planning, M: Monitoring, E: Evaluating.
MQ: Metacognitive Questions, TL: Thinking Language: L: Lecturer, S: Student.

Appendix E: Semi-Structured Interview Questions for Lecturers

Section One: Demographic Information

1. Would you please introduce yourself?
- Name
- Nationality
- Major
- Teaching experience

Section Two: Lecturer as a Former Student

2. You have done a lot of exams, you obviously were excellent, could you please describe how you learn and your thinking processes?
3. What do you know about yourself as a learner?
4. How do you come to know about your thinking or learning style or your preferred cognitive processes?

Section Three: Lecturer's Role and Practice in the Lecture room

5. Besides teaching the course content, what other things are you interested in providing your students with? Why?
6. Is teaching students how to learn and think your responsibility? Please elaborate why the answer yes or no?
7. Could you give me some examples of when you asked your students to plan their work?
8. During lecturers, how would you check your progress towards the lecture's goals?
9. What do you do if your students do not get the correct answer to a question or are unable to do a given activity?
10. Have you encouraged your students to check or monitor their performance/progress/understanding during class? If so, how?
11. Could you give me some examples of when you ask your students to evaluate their work?

Section Four: Metacognition

12. What do you understand by the term metacognition?
13. Do you think that metacognitive skills can be taught? Please give the reason for your answer.

14. From your perspective, what teaching strategies are best to enhance students' metacognitive skills? How would you encourage/facilitate your students' learning and thinking about thinking, or metacognition?
15. What factors are likely to limit the promotion of metacognition/metacognitive skills in higher education in Saudi Arabia (KSA)?
16. Is there a sufficient emphasis on metacognition/metacognitive skills in the guidelines of the University/College/Department?
17. What changes would you suggest for the University to make to enhance students' metacognition?
18. Is metacognition something that should be taken seriously by the Ministry of Education in KSA? Why?
19. Do you have further comments regarding the development of metacognition/metacognitive skills?

Arabic Copy of Appendix E

أسئلة المقابلات (أعضاء هيئة التدريس)

القسم الأول: معلومات عامة

1. هل بالإمكان تقديم نفسك؟
   - الاسم
   - الجنسية
   - التخصص
   - سنوات الخبرة التدريسية

القسم الثاني: عضوة هيئة التدريس "كطالبة"

2. من الطبيعي أنك كطالبة، قد قمت بأداء الكثير من الاختبارات، ومن المؤكد انك أدائك كان عالي جدا، هل بالإمكان وصف طريقتك في التعلم والدراسة؟

3. ماذا تعرفين عن أسلوبك في التعلم؟

4. كيف حصلت على هذه المعرفة عن طبيعتك في التفكير او طريقتك في التعلم؟

القسم الثالث: دور عضوة هيئة التدريس و الممارسات التدريسية في قاعة المحاضرة

5. الى جانب تدريس المقررات الدراسية، ماهي الأشياء الأخرى التي تهتمين بتزويد طالباتك بها او تهتمين بتنميتها لدى الطالبات؟ ولماذا؟

6. هل تعتقدين ان تدريس الطالبات كيفية التعلم او كيفية التفكير احدى مسئولياتك؟ وضحي اجابتك سواء كانت الإجابة نعم او لا؟

7. هل يمكنك إعطائي بعض الأمثلة لمواقف كلفت فيها الطالبات بإعداد خطة لعمل ما ؟

8. أثناء المحاضرة؟ كيف تتحققين عادة من تقدمك نحو تحقيق أهداف المحاضرة؟

9. كيف تتصرفين اذا لم تتمكن طالباتك من الوصول للإجابة الصحيحة او أداء نشاط كلفن بالقيام به؟

10. في الصف الدراسي، هل تشجعين طالباتك على التحقق او مراقبة أدائهن او فهمهن للموضوع؟ و كيف؟

11. هل يمكنك أن تعطيني بعض الأمثلة لمواقف كلفت فيها طالباتك بتقويم أعمالهن؟

القسم الرابع: التفكير ما وراء المعرفي

12. ما هو تصورك لمفهوم التفكير ما وراء المعرفي؟

13. هل تعتقدين أن بالإمكان تدريس مهارات التفكير ما وراء المعرفي؟ الرجاء وضحي اجابتك سواء كانت الإجابة نعم او لا؟

14. من وجهة نظرك، ماهي طرق التدريس الأفضل لتدريس مهارات التفكير ما وراء المعرفي؟ أو كيف تشجعين طالباتك على معرفة كيف تتعلمن او كيف تفكرن، أو كيف تفكرن بأسلوب التفكير ما وراء المعرفي؟

15. ماهي العوامل التي من المحتمل أن تحد من تعزيز التفكير ما وراء المعرفي / مهارات التفكير ما وراء المعرفي في سياق التعليم العالي في المملكة؟

16. هل تعتقدين ان هناك تركيز كاف على مهارات التفكير ما وراء المعرفي و مهاراته في المبادئ التوجيهية او دليل الجامعة/الكلية /القسم؟

17. ماهي التغييرات التي قد تقترحينها على الجامعة لتعزيز مهارات التفكير ما وراء المعرفي لطالبات الجامعة؟

18. هل التفكير ما وراء المعرفي شيء ينبغي أن يؤخذ على محمل الجد من قبل وزارة التعليم في المملكة العربية السعودية؟ ولماذا؟

19. هل لديك المزيد من التعليقات فيما يتعلق بتطوير التفكير ما وراء المعرفي و مهاراته في المملكة العربية السعودية؟

Appendix F: An Example of a Lecturer's Interview

Special Education Department

Section One: Demographic Information

20. **Would you please introduce yourself?**
- **Name**: Nawal
- **Nationality**: Saudi
- **Major:** Special Education – Hearing Impairment
- **Teaching experience**: three years, currently a post graduate student for a Master's degree.

Section Two: Lecturer as a Former Student

2. You have done a lot of exams, you obviously were excellent, could you please describe how you learn and your thinking processes?

Answer: Firstly, regarding attending lectures, I like to follow up with the lecturer. I like to take notes even if the information is in the textbook. I concentrate on understanding the lecturer, and if the lecture is difficult to understand, I read the lecture at home from the textbook and link it to the lecturer's words and explanation. Regarding my way of studying, it is a hard one as I am quite meticulous when I study. Once the dates of the exams are announced, I like to start studying. I start to view the topics and units required for the exam so that when the exam's time comes, I would have some background information so that if unfortunate circumstances, such as being sick, happened, I would still be ready to take the exam.

While studying, I underline parts of the text and draw some graphical shapes. I make a plan and allocate time for each part. I assign a motivation for myself or a reward (simple things such as an activity or going to a certain place). I constantly observe the time, I do not move from one point to another until I have read the first, understood it and repeated it to myself from my understanding or by sticking to the words of definitions.

Also, I explain the subject to myself and ask myself questions. In school I get myself involved in, for example, explaining the lesson to my classmates. In the exam period, I review and explain to them and, therefore, I learn the information because there is information that I might forget, so the explaining process Instill it in my mind.

3. What do you know about yourself as a learner?

Answer: I have indirect knowledge of myself; for example, I am the kind of person who likes to remember the location of the title in the book, so that when I want to recall information, I remember its place in the textbook. If the book was reprinted and the information's place was changed, I would find it difficult to recall that information. Visual signals/cues are very important for me because I memorize quickly and forget quickly.

4. How do you come to know about your thinking or learning style or your preferred cognitive processes?

Answer: I acquired it on my own, but it is possible that the lecturers gave strategies in an indirect way because the students' number does not help them to provide the students with these strategies directly. For example, in school, I remember that there were workshops about visual learning strategies such as Mind Maps. But at University I do not remember that something similar took place. Also, at school, they develop this through the teaching lessons experience, participating in activities and the School Radio and these have impacted my way of teaching through acquiring self-confidence and overcoming stuttering and the ability to face large numbers of students. Also, the explanation experience helped me. I explain to myself, and then to my colleagues and such I absorb the information. Additionally, the experience of explaining things has helped me to explain information to myself and to my classmates and, through that, to acquire the knowledge myself. I put myself in the position of the recipient which helps me to know things that I learned and to focus more on the things that I did not absorb.

Section Three: Lecturer's Role and Practice in the Lecture room

5. Besides teaching the course content, what other things are you interested in providing your students with? Why?

Answer: I do not like to give theoretical information only; Three-quarters of my lectures pertain to practical applications. I keep the theoretical part in my lectures short. I extend the practical side because I work hard with the students in the Field Training Course. I like to give examples. In addition, I discuss with the students a variety of topics such as the social media tools: Do they support or oppose them? Also, I promote students' ability to critique and evaluate. For example, each student presents her project, and I ask her classmates to evaluate her which is useful as it enables students to put themselves in the shoes of the person who does an evaluation such as the teacher. Consequently, instead of feeling unfairly treated/evaluated, when the student receives her evaluation, she becomes aware that evaluation is subject to certain standards. Also, she will realize the meaning of individuals' differences between students.

6. Is teaching students how to learn and think your responsibility? Please elaborate why the answer yes or no?

Answer: Of course it is one of my responsibilities; for example, I give examples to students. For instance, I tell the students if a lecturer teaches a

subject without a textbook, do you care more about listening to the lecture or care more about writing notes during the lecture? I, for example, focus on writing notes because if I only limited myself to listening to the lecture, I might forget so many things.

Also, there are things that we develop for students during the exams' days for example. We notify students not to memorise the course only, but to understand it as well because understanding has a role. Also, questions have a role in developing learning. I believe that my role is not limited to giving information only; it is necessary to teach students some matters such as adhering to deadlines when submitting homework assignments and projects.

7. Could you give me some examples of when you asked your students to plan their work?
Answer: For example, today's lecture, the course is about designing educational programs for individuals with hearing disabilities. The main project is about preparing an educational plan, each student takes a hearing impairment case from any age range and designs an educational plan for it.

The components of the plan is about designing a case study, I measure its current level, I do tests based on the problem, I identify the main problem, formulate a goal. Regarding application of tests and case study, the student applies them practically. But for goals application it is hypothetical because of the large number of students in the course and the schools' and institutions' inability to receive students for application beside Field Training course students. Therefore, we only require a student to prepare a full plan of the lesson which includes: the goals and the procedures in a complete way (the activities, etc.).

8. During lecturers, how would you check your progress towards the lecture's goals?
Answer: Through the students' responses. I do not start the new lecture without reviewing previous information. Also, through the involvement of students who do not participate in addition to other evaluating methods such as the plan they are required to prepare.

To me, students' interaction is the main indicator to achieving goals, a student asks and understands. Even if her participation was incorrect, this may refer to the failure to achieve the intended goal.

9. What do you do if your students do not get the correct answer to a question or are unable to do a given activity?
Answer: In the lecture I re-explain the point which was not clear. There was a situation that I faced, I explained a topic in a lecture, and in the following lecture when I tried to review the previous lecture, I found that the students were unable to answer. Thus, I canceled the new lesson, and I re-explained the previous lesson in a different way and with practical applications.

Regarding the exams, the matter here is different. If the performance was not satisfying, I require the students to do another activity that measures other capabilities such as participation in the Department activities, or doing another research or assignment.

10. Have you encouraged your students to check or monitor their performance/progress/understanding during the class? If so, how?

Answer: This differs from one lecture to another; I like to use motivators such as presenting a video and asking them to make conclusions from the video. I give one mark to the student who gives the correct answer. This helps students to concentrate whether they are normally active or not. At the end of the lecture, I might explain a point and divide the students into groups and do for instance an open-book. I present a topic and ask them to collect information about it through books and websites, and then I collect their answers.

Another example is in the lesson of setting goals; when setting goals, I choose a student at random and I say to her, 'formulate a goal.' If she formulates a goal in a correct way, that means she understood. If she could not formulate a goal, this shows that she did not understand.

11. Could you give me some examples of when you ask your students to evaluate their work?

Answer: In the Field Training, for example, I say to a student, 'Evaluate yourself,' 'How was your performance?' Because each term I give students criteria or standards and based on these standards and based on my criticism of her during the term I require from her to place herself in my shoes and to assess herself.

In the course of Program Preparation for Hearing Impairment, next week each group will present their project to their classmates, and they are required to comment on their projects as well as their classmates'. Part of the score is allocated to the student's evaluation.

The same example that I mentioned before (a case study + experimenting with it + setting a hypothetical plan). In other courses such as Communication, the projects were open (community awareness, translating banners in restaurants and malls, designing leaflets, an application on Android)

Section Four: Metacognition

12. What do you understand by the term metacognition?

Answer: I heard a lot about it, I think it is things that go beyond knowledge, things that we obtain from experience such as things that we receive through values. For example, Bloom's Taxonomy refers to the classification of targets as (cognitive, kinesthetic and affective). We apply this when we ask the students to design a plan, they need to prepare prepares a lesson

plan and set goals so that they include cognitive, kinesthetic, and affective dimensions.

13. Do you think that metacognitive skills can be taught? Please give the reason for your answer.

Answer: yes, through practical application. Our role is not to give information only, but to equip students with other skills as well. There are things that we may give indirectly as I mentioned in the previous examples. I raise a hypothetical a problem with a student with hearing impairment, how would she behave in such a situation?

Also, through questions, how would you react to a certain situation? For example, Imagining a classroom situation and knowing how a student behaves in such a situation, this will help my student know what to focus on in the student's behavior.

14. From your perspective what teaching strategies are best to enhance students' metacognitive skills? How would you encourage/facilitate your students' learning and thinking about thinking or metacognition?

Answer: In Program Preparation, we focus on evaluation: 'Did she plan this goal or not?' 'Did she achieve the goals or not?' Evaluation is required in every stage (formative) and a final evaluation. Every goal is evaluated differently; for example, the goal: A student mentions safety rules for the road, for instance, how would the student be evaluated with regard to the achievement of that goal?

Also, the problem-solving method. I raise a problem, I ask a student, on what basis did you solve the problem? Also, cooperative learning; I divide the student into groups and each group evaluates another group.

Through the distribution of tasks between the students and following up on the performance of each student and then assessing the information gathered by her classmates and the teacher.

I ask the student's personal questions, for example, 'How do you study?' During a lecture do you care about listening or writing down notes? If the place of information changed in the textbook, does this change your ability to recall the information?

Also, how do I teach the hearing impaired people how to learn? For example, I use visual learning as they have a hearing impairment.

Also, I follow certain methods such as enacting a framework or a way of thinking in front of students or introducing an example. Therefore, a student realizes the importance of a certain thing in the field, and she will be interested in learning it. However, if I introduce information in the form

of bullet points, a student may memorize the information but then forget it.

An example: Through striking practical examples, and not only limiting the lesson to theory.

In lectures, general open-ended questions based on the nature of the situation, while in exam, objective questions based on understanding more than memorizing.

15. What factors are likely to limit the promotion of metacognition/metacognitive skills in higher education in Saudi Arabia (KSA)?

Answer: The students' large number as it is impossible to focus on 70 students in two hours in a normal term. In the summer term, the chance might be better because of the small number of students (20 students for example); therefore, it is possible to focus on each student in an individual way. In addition to the lecture time, the teacher is hindered by the large number of students. These might be the most important reasons because a student is now aware of her responsibility as a learner, and she can evaluate herself. For example, when a student says, 'I have failed', this is an evidence of her sense of responsibility, but this may not apply to all students since some students may complain or argue, despite being wrong.

Also, family background, some families may develop skills such as planning to its children, while other families may not care about developing these skills.

16. Is there a sufficient emphasis on metacognition/metacognitive skills in the guidelines of the University/College/Department?

Answer: In theory yes it exists; the goals always include developing skills . . . but they are not applied. There are no strategies for applying them. I do not know the things that would help me apply them? The management speaks about these from a theoretical viewpoint. The faculty member is not evaluated. Nothing is there to address metacognitive skills. I believe that metacognitive skills have to be fundamental. Our society has no longer taken care of things that our students need.

There is an interest in it but not to a sufficient degree. lecturers differ in their beliefs and interests, It depends on the teacher's character and his or her belief in its importance. There are lecturers who only explain a lecture and there are things that a teacher may give accidentally.

17. What changes would you suggest for the University to make to enhance students' metacognition?

Answer:

- A training course for faculty members in how to use these skills; some people may know these skills but may be unable to apply them.

- Considering MS as one of the standards for faculty members' evaluation; therefore, people will become more interested in them.
- Providing incentives for faculty members; a member who applies them would be treated differently than a member who does not.

18. Is metacognition something that should be taken seriously by the Ministry of Education in KSA? Why?

Answer: Sure, because we have come to believe that acquiring knowledge is not the ultimate goal. There are skills that students may acquire on other levels; for example, problem-solving skills are fundamental, how a student start to feel responsible for her behavior and be able to solve a problem and how she becomes aware of her behavior.

Surely metacognitive skills are important because if a student does not acquire them in the university, it will be difficult for her to acquire them later. In addition to the benefits of these skills for her as a teacher, these skills will benefit her in her practical life when she has self-awareness of her strengths and weaknesses. Also, in her life, these skills will be useful for her in solving her social problems. Therefore, advantages of these are not limited to education only.

19. Do you have further comments regarding the development of metacognition/metacognitive skills?
No

Appendix G: Group Interview Questions for Students

Section One: Demographic Information
1. **Would you please introduce yourself?**
   - Name
   - Major
   - Level

Section Two: assignments and the teaching process in the classroom

2. What are the type of learning activities and assignments that are normally assigned to you?
3. Could you give me some examples of when you were asked by your lecturers to plan your work?
A. What did you learn from this experience?
4. Could you give me examples of some strategies/instructions that you are given by your lecturers to monitor your performance/progress regarding your learning/thinking on the subject?
5. Could you give me some examples of when you were asked by your lecturers to evaluate your work?
A. How did you benefit from this experience?
6. What type of questions do your lecturers usually ask in the classroom/exam?
A. How would you describe them? Why?
7. How would you describe the teaching methods of the university lecturers? Why?

Section Three: Students' learning processes

8. What do you know about yourself as a learner? Or which cognitive processes are more appropriate for you?
9. Do you think that you have a sufficient level of planning skills as a university student? Please explain why you have answered yes or no?
10. Do you think that you have a sufficient level of monitoring skills as a university student? Please explain why you have answered yes or no?
11. Do you think that you have a sufficient level of evaluating skills as a university student? Please explain why you have answered yes or no?

Section Four: Metacognition
12. What do you know about metacognition?
13. From your perspective, what factors are likely to limit the promotion of metacognition in higher education in Saudi Arabia (KSA)?

14. What roles can your lecturers play to help you to be able to plan your learning/thinking? Or as a university lecturer, how would you promote the students' planning skills as a metacognitive skill?

15. What roles can your lecturers play to help you to be able to monitor your learning/thinking? Or as a university lecturer, how would you promote the students' monitoring skills as a metacognitive skill?

16. What roles can your lecturers play to help you to be able to evaluate your learning/thinking? Or as a university lecturer, how would you promote the students' evaluating skills as a metacognitive skill?

17. From your point of view, what are the changes that your University/College has to make to promote metacognition in higher education in KSA?

18. Do you have any further comments, thoughts, or suggestions regarding the development and promotion of metacognitive skills in Saudi Arabia?

Arabic Copy of Appendix G

أسئلة المقابلات (طالبات)

القسم الأول: معلومات عامة

1. هل بالإمكان تقديم نفسك؟

- الاسم
- التخصص
- المستوى

القسم الثاني: التكليفات و العمليات التدريسية في غرفة الصف

2. ما نوع الأنشطة التعليمية او التكليفات التي يتم تكليفكن بها عادة؟

3. هل بالإمكان اعطائي امثلة الانشطة او واجبات كلفت فيها بإعداد خطة ؟

أ- ماذا تعلمت من هذه الخبرة او النشاط (الخطة)؟

4. هل بإمكانك اعطائي أمثلة لبعض الاستراتيجيات/ التعليمات التي زوّدت بها من قبل المعلم والتي من شأنها مساعدتك على مراقبة أدائك او تقدمك في المادة؟

5. هل بالإمكان اعطائي امثلة لأنشطة او واجبات او مواقف كلفت فيها بتقويم ادائك ؟

ب- كيف استفدت من هذه الخبرة (خبرة التقويم)؟

6. ماهي نوعية الأسئلة التي يطرحها المعلم في غرفة الصف؟

ت- كيف تصفين هذه الأسئلة؟ و لماذا؟

7. كيف تصفين طرق التدريس المستخدمة من قبل أستاذاتك؟ و لماذا؟

القسم الثالث: العمليات المعرفية للطالبة

8. ماذا تعرفين عن أسلوبك في التعلم؟ أو ما هي العمليات المعرفية الأكثر مناسبة لك؟

9. كطالبة جامعية، هل تعتقدين ان لديك مستوى كاف من مهارة التخطيط؟ وضحي سواء كانت الإجابة نعم او لا؟

10. كطالبة جامعية، هل تعتقدين ان لديك مستوى كاف من مهارة الرصد و المراقبة؟ وضحي سواء كانت الإجابة نعم او لا؟

11. كطالبة جامعية، هل تعتقدين ان لديك مستوى كاف من مهارة التقويم؟ وضحي سواء كانت الإجابة نعم او لا؟

القسم الرابع: التفكير ما وراء المعرفي

12. ماذا تعرفين عن التفكير ما وراء المعرفي؟

13. من وجهة نظرك ماهي العوامل التي قد تحد من تنمية التفكير ما وراء المعرفي في سياق التعليم العالي في المملكة العربية السعودية؟

14. ما الذي تستطيع المعلمة القيام به لمساعدتك على تنمية القدرة على التخطيط لتعلمك/ لتفكيرك؟ أو كأستاذة جامعية، كيف تنمين مهارة التخطيط كمهارة تفكير ما وراء المعرفي للطالبات؟

15. ما الذي تستطيع المعلمة القيام به لمساعدتك على تنمية القدرة على الرصد و المراقبة لتعلمك/ لتفكيرك؟ أو كأستاذة جامعية، كيف تنمين مهارة الرصد والمراقبة كمهارة تفكير ما وراء المعرفي للطالبات؟

16. ما الذي تستطيع المعلمة القيام به لمساعدتك على تنمية القدرة على التقويم لتعلمك/ لتفكيرك؟ أو كأستاذة جامعية، كيف تنمين مهارة التقويم كمهارة تفكير ما وراء المعرفي للطالبات؟

17. من وجهة نظرك ، ماهي التغييرات التي يجب على الجامعة/الكلية لتعزيز التفكير ما وراء المعرفي في التعليم الجامعي في المملكة؟

18. هل لديك أي تعليقات او اقتراحات أخرى تتعلق بتطوير التفكير ما وراء المعرفي بشكل عام و مهاراته بشكل خاص في

19. المملكة؟

Appendix H: An Example of Student Data Gathered During Group Interview

Art Education Department

Section One: Demographic Information
1. Would you please introduce yourself?
- Name: Abrar
- Major: Art Education
- Level: Fourt, the second year

Section Two: assignments and the teaching process in the classroom

2. What are the type of learning activities and assignments that are normally assigned to you?
Answer: Presentations have some advantages … generally, this is from two aspects: positive and negative.

3. Could you give me some examples of when you were asked by your lecturers to plan your work?
A. What did you learn from this experience?
Answer: I have not experienced this before. I studied Teaching Strategies course but they did not ask us to prepare a written plan or present a lesson; the course was mostly about teaching methods, but the Dr. was employing various strategies a lot such as cooperative learning and the six hats. She would present a lesson and how we can apply a certain strategy in it. She was applying teaching strategies from the beginning to the end of the semester. She gave examples of different lessons from different subjects such as religion, etc. but there were no examples from the Art Education.

Regarding reports that we are assigned to do, the Dr. gives us topics and asks us to write reports about them. I mean the reports are just collecting information.

Regarding presentations, the Dr. gives us the topics. If the academic content is in the curriculum, she gives us the academic content and it is our responsibility to organize it, structure it and add pictures to it. But if the academic content is not in the curriculum of the course, we search for it and collect information. For example, we did presentations in the Children Drawing course and some general courses. It is possible that the lecturer would ask some questions about the presentations; the lecturer may ask what do you mean by this? What is this? etc. She asks questions related to the content. I did a presentation about "adequate raw materials for children's drawings" and I searched for the content and put it together because it is not in the course curriculum.

Regarding the practical projects, firstly, I prepare the idea and tools, then I start working and consult the Dr. at each step to check if I did it correctly or not, and

then make any necessary modifications. Then I would finish the work when the Dr. says it is good and ready to be finished. In some courses such as the Calligraphy course, the lecturer gives us calligraphers' accounts and asks us to acquaint ourselves with them. Sometimes she sends to us to view this artist's work and that artist's work, etc. In the Ceramic course, the Dr. says have a look at this … and she provides us with topics, names, and search keywords.

4. Could you give me examples of some strategies/instructions that you are given by your lecturers to monitor your performance/progress regarding your learning/thinking on the subject?

Answer: I experienced this in the general courses not in the specialization courses, but in the practical part the lecturers provide us with instructions. For example, she says prepare your tools, as in the Ceramic course for instance, she said prepare the ropes that you will use in advance. Another example, in the Calligraphy course, the lecturer says practice at home. Also, this happens in the course of Drawing Studio. Of course, the lecturers guide us and say, for example, using this technique is better than using the other. Also, in some courses, the lecturers try to link between courses. For example, the lecturer may link the Calligraphy course to the Design Principles course. This linking happens in some courses not all courses, but the link would be in the technique used not in information. I mean sometimes the Dr. links and says you have studied this in that (such) course.

5. Could you give me some examples of when you were asked by your lecturers to evaluate your work?

Answer: I have experienced evaluation whether that was to evaluate my own work or others' work. For example, the lecturer asked me to evaluate my work in the Calligraphy course. She always asks what do you think? Before the lecturer says her opinion she would ask the student about her opinion. I believe this helps us to see the defects of the work and to get experience in this field. I feel evaluation exists in a number of courses. The lecturers in most courses ask us about our opinion. For example, what do you think about the work now? Also, after modification, they ask what do you think of the quality of the project? Is it better now or before? When I evaluate a work, I know the evaluating criteria in advance. I compare the work to the design principles (balance, coherence, color, the cleanness of the work) to see if my work match them or not. Of course, the Design Principles course is useful to evaluate the practical projects in most courses. I, also, have experienced group evaluation (the students evaluate the projects as a group) in one course, and the evaluation depended on the same design principles. We studied these principles in the Design Principles course under the title "The Elements of Good Design". The lecturer reminds us about them during the evaluation.

A. How did you benefit from this experience?
Answer: I can now evaluate my work and the score that I would obtain, and then, I have become able to take into account these things when I start a new project/work.

6. What type of questions do your lecturers usually ask in the classroom/exam?

How would you describe them? Why?
Answer: Most questions in the theoretical lecturers; **"**who can explain this point?" Or "give me an example?" or "Explain." I feel these questions stimulate

thinking. For example, if the lecturer mentions a point, and then says, "Give me an example?" I will start to think about examples. Also if she says, "Explain", I would benefit from this because it will make the lecture thought-provoking not boring. For example, this student explains in her own way and another student explains in her own way; this brings the lecture to life. Moreover, when I study, I would remember how I explained it. Of course, the amount of questions that arise would vary from a course to another. There are a few of the lecturers who would not ask questions.

7. How would you describe the teaching methods of the university lecturers? Why?

Answer: They mostly use the PowerPoint in the theoretical lectures and, therefore, the lecturer reads the presentation slides or she would explain and the PowerPoint would be used to assist the explanation. Of course, professors are different and each one has her own style. I think these teaching method i.e reading is not bad, but not going beyond it causes bored and sleepiness in the students. Of course, there are advantages and disadvantages, and I believe fully relying on this method can be counterproductive.

Regarding the practical courses, some lecturers do the work in front of us such as Ceramic course, the Calligraphy course, the Drawing Studio, and the Computer Design course. Some only give information, I mean they say: Do such and such, this and that and so on.

Section Three: Students' learning processes

8. What do you know about yourself as a learner? Or which cognitive processes are more appropriate for you?

Answer: I believe I apply more than one style. I mean, I apply memorization, understanding/comprehension, analysis and application. I mean,for example, there are some theoretical subjects that, firstly, students need to understand to be able to memorise them. Also, there are applied courses that depend on memorising and understanding to be able to apply them. I believe these processes overlap with each other and cannot be separated from each other. Of course, the type of the course or the content of the course would identify the learning style or what mental process I would use. Through my personal experience I have found that these methods are appropriate for my learning.

9. Do you think that you have a sufficient level of planning skills as a university student? Please explain why you have answered yes or no?

Answer: I believe I have the planning skills. We did not experience this in practice, but in the course of 'Introduction to Art Education' the lecturer gave us the task to prepare a lesson plan from the beginning to the end, by the 'end' I mean the evaluation stage. She, also, gave us examples of

how to deal with difficulties, i.e. how to assess them and overcome them. Therefore, I believe I am able to plan.

For example, I plan for my work; for instance, I will finish this work on this day. I feel I have come to realize the meaning of time and daily planning since I have entered the Art education major; I mean I realised that more than before. I believe the planning skills arose because of work pressure. The planning skills are much exist in practical courses not theoretical courses

10. Do you think that you have a sufficient level of monitoring skills as a university student? Please explain why you have answered yes or no?

Answer: Yes, I have the monitoring skills, because as I know how to plan, this means I have to set my goals, and, therefore, I will follow and monitor these goals. I feel that monitoring is not difficult. Yes it takes time but it is not difficult because there is a goal and, through monitoring. I will check if I achieved it or not. Also, I would discover the weaknesses and fix them. I, also, believe that I have this skill from life situations; for example, when I entered the Art education major, I have set goals for myself. Firstly, I set a goal for a certain mean of marks because I want to work as a teaching assistant in the department, and thus I monitor my scores to keep checking if that goal will be possible or not.

I believe the monitoring skills exist in the practical courses more than in the theoretical courses. In each lecture of the practical course, the professor monitors the work and, also, the student monitor herself and her work and track her progress. However in the theoretical courses the Dr. gives information. I mean you won't be able to monitor my performance till the exam day to see how well I have done.

11. Do you think that you have a sufficient level of evaluating skills as a university student? Please explain why you have answered yes or no?

Answer: yes, because I experienced it. I once offered my evaluation and the Dr. said your evaluation is good. I gave my evaluation more than once.

In the practical part, I evaluate my own work, and when I see the score I also can evaluate myself because I have had evaluating experience. Also, the lecturers gave us chances to evaluate.

Section Four: Metacognition

12. What do you know about metacognition?

Answer: I studied about metacognition in the course of 'Thinking skills', but, honestly, I do not remember it. In this course, we studied about

thinking types such as creative thinking, critical thinking, and metacognition.

I feel metacognition exists in practical courses more than theoretical courses especially at the University. But I think we promote it by ourselves not by the lecturers' guidance.

13. From your perspective, what factors are likely to limit the promotion of metacognition in higher education in Saudi Arabia (KSA)?

Answer: I think the surrounding atmosphere; for example, if most of the university lecturers do not apply metacognition. Also if the students themselves are not familiar with metacognition, it will be difficult to apply it. But if there is cooperation between both, the lecturers apply it and the students accept it, in this case application of metacognition would succeed. The students may not accept metacognition because they are not used to it. I think if a Dr. tries to apply it, the students won't accept it because most of the lecturers do not apply it. The students would say: you want to change what we are used to. But if the entire department applies it, the students would accept it. Of course, it is good that the student thinks, but at the same time she should not come up with everything. The lecturer should clarify everything to the students, for example, this is the curriculum that you need to study and such, but the students could participate in these matters. I mean the students need to have a clear picture, for example, of what she will study, what is required from her, and what she is assigned to do. I mean the students have to participate and not to expect everything to be ready for her. I mean the responsibility is distributed between the student and the professor, but the professor has more responsibility. I mean, I suppose that the professor plays a large role in introducing me to and teaching me about metacognition.

I, also, believe that the student's educational background may prevent her from using metacognition. I find that the students who were educated in a system where the courses require self-reliance more than teacher-reliance are more capable than students who were not educated under the same system.

14. What roles can your lecturers play to help you to be able to plan your learning/thinking? Or as a university lecturer, how would you promote the students' planning skill as a metacognitive skill?

Answer: She can become a model for me. For example, regarding the theoretical presentations, I think the lecturer needs to apply her explanation in front of the students. However, she should not link this matter to the scores; I mean she should not say I will reduce your score if you did not do such and such. I mean she should not impose conditions because this will put pressure on the students. I mean she should show us a model of a plan because we won't fully understand if she does not apply for us. But she should not impose scores on the application of metacognition; for example, she should not reduce my score if I make a mistake in this point and such.

15. What roles can your lecturers play to help you to be able to monitor your learning/thinking? Or as a university lecturer, how would you promote the students' monitoring skill as a metacognitive skill?

Answer: The lecturer should ask the students to monitor their work. It is okay if the lecturer guides them, but also it is necessary for the students to monitor themselves. I mean when students set goals, they should monitor their progress to see if the steps they are taking lead them towards the achievement of the goals or not.

16. What roles can your lecturers play to help you to be able to evaluate your learning/thinking? Or as a university lecturer, how would you promote the students' evaluating skill as a metacognitive skill?

Answer: The lecturer should require the student to evaluate herself with respect to her previous work and later work, I mean to compare between her works/projects. Also, she should require from the student to compare her projects to her calssmates' projects.

17. From your point of view, what are the changes that your University/ College have to do to promote metacognition in Higher education in KSA?

Answer: I believe the teaching methods need to be changed and metacognition needs to be integrated within them. They should integrate metacognition in the teaching of each course. Also, metacognition could be taught as a separate course. Moreover, the University could conduct courses/workshops about metacognition by specialists in the field. These courses/workshops should be for lecturers and students as well, special courses/workshops for students, and special courses/workshops for lecturers about how to employ metacognition with students. What would attract me and any student to these courses is our actual need for them. The thing that may prevent me from attending courses is an overlap with the lectures time and also the pressure of the study. Therefore, we are not able to attend them.

18. Do you have any further comments, thoughts, or suggestions regarding the development and promotion of metacognitive skills in Saudi Arabia?

Answer: I think metacognition is important, I feel it might give you fully understanding of the field that you might chose to complete your study and this is very important. Also, understanding of the workplace and the field of your future career. I feel metacognition represent self-understanding. I mean it is important for the students because it weii lead to their success.

Appendix I: Content of Metacognition that is Taught to Students

Skills of Metacognitive Thinking

The concept of metacognitive thinking is used alongside many synonyms, such as: thinking behind knowledge, thinking about thinking, metaphysical thinking, post-cognitive thinking and thinking behind cognition.

The definitions of "the skills of metacognitive thinking" have multiplied over time, of these definitions we note:

- The ability to think of or about the course of thinking.

- The highest levels of cognitive activity that renders the individual aware of himself and of the others while thinking of the solution of the problem.

- The skills of metacognitive thinking are defined in a way that combines the most important aforementioned elements as follows: "It is **complicated mental skills that are considered to be among the most important components of intelligent behavior in processing information. It grows with age and experience. It serves to control all the thinking activities directed at problem solving, as well as using the abilities and the cognitive resources of the individual effectively while facing the requirements of the thinking process**".

Thus, skills of metacognitive thinking are described through three main categories: planning, controlling and assessment. Each of these categories includes number of subsidiary skills, showed as follows:

A. Planning:

This skill includes putting a plan in a particular place to achieve a certain goal. In the manner that the teacher plans lessons, the student plans a studying schedule and the economist plans to develop resources etc. In teaching this skill, we focus on some aspects like: how to identify a problem, how to define the goals of studying it, the steps to follow while researching it, consequences and possible mistakes and determining solutions or alternatives while facing it.

B. Monitoring & Controlling:

This skill means the individual remains committed to goal, and keeps it in focus. The individual follows up on its achievement according to certain sequence, knowing when to move from one stage to the next, how to discover the barriers and the mistakes and how to overcome them. For instance, a student observing his learning process of a certain concept, a teacher observing the methods he uses to fulfill the goal of thinking development and a school principal observing his method of directing the plan of school activities.

C. Assessment:

This skill means the extent to which we achieve the goal we look towards, how to judge the results and its adequacy, evaluate the methods that have been followed and judge the effectiveness of the plan and its achievement. For instance, a teacher evaluating the effectiveness of the methods he uses in developing thinking skills of the students, a student evaluating the effectiveness of his study method and a principal's evaluation of the effectiveness of his way of directing the plan of school activities.

Thus, problem solving and decision making strategies are considered of the best methods for learning skills of metacognitive thinking.

An example to highlight the differences between cognitive thinking and metacognitive thinking:

When presenting a new technology as such as "the computer" and teaching students this technology, (the cognitive skills) needed from the students are related to the date students discover this technology, the tasks achieved through it and the information related to the description of computer parts. Meanwhile (the metacognitive skills) are related to questions asked by the teacher like: How can one envisage a world free of computer devices? How is it possible to amend the school system when entering the computer into the teaching process? What is the status of unemployment when spreading the use of the computer in performing work in an industrial company?

Thus, most of the experts in the subject of thinking in learning agree that there is an overlap and interrelation between the two types of skills, the cognitive and metacognitive, while learning. Any program for teaching thinking should not be limited to developing a number of low or medium order cognitive processes. Instead, it should be upgraded to reach another level related to developing

students skill on subjective thinking and pushing them to make decisions, judgments and evaluations on the subject presented to him. The results of research into thinking in learning indicate that metacognitive thinking skills develop slowly from the age of five, then evolves tangibly beginning from the ages of 11 to 13 (FathyGerawon 2002). **Overall, the student's possession of metacognitive thinking skills is considered to be a strong indicator of his possession of creative thinking, and his introduction indicates that he will be an inventor or developer in his field of work.**

Reference:

Moustafa Abdel-Kader Zeyada, Esmaail Muhammed El-Fekky, Ahmed Muhammed Salem (2008), The Teacher and Developing Thinking Skills, Al-Roshdlibrary, chapter four, page 140-142.

Arabic Copy of Appendix I

مهارات التفكير فوق المعرفية

يستخدم مصطلح التفكير فوق المعرفي بعدة مترادفات مثل: التفكير ما وراء المعرفة، التفكير في التفكير، التفكير الميتافيزيقي، التفكير ما بعد المعرفي، التفكير ما وراء الإدراك.

و لقد تعددت تعريفات "مهارات التفكير فوق المعرفي" و نذكر منها ما يلي:

● القدرة على التفكير في مجريات التفكير أو حوله.

● أعلى مستويات النشاط العقلي الذي يبقي الفرد على وعي بذاته وبغيره أثناء التفكير في حل المشكلة.

● هذا و تعرف "مهارات التفكير فوق المعرفية" بطريقة تجمع أهم العناصر المشار إليها سابقا على النحو التالي: **"أنها مهارات عقلية معقدة تعد من أهم مكونات السلوك الذكي في معالجة المعلومات، و تنمو مع التقدم في العمر و الخبرة، و تقوم بمهمة السيطرة على جميع نشاطات التفكير الموجهة لحل المشكلة، و استخدام القدرات أو الموارد المعرفية للفرد بفاعلية في مواجهة متطلبات مهمة التفكير".**

هذا و يتم وصف مهارات التفكير فوق المعرفي في ثلاث فئات رئيسية هي التخطيط، و المراقبة، و التقييم حيث تضم كل من هذه الفئات عددا من المهارات الفرعية كما يتضح فيما يلي

.

أ- التخطيط Planning:

و تشتمل هذه المهارة على وضع تخطيط في مجال ما لتحقيق هدف ما، كأن يضع المعلم تخطيطا لدروسه، و يضع التلميذ تخطيط لنظام المذاكرة، و يضع الاقتصادي تخطيطا لتنمية الموارد... الخ، و في تعليم هذه المهارة يتم التركيز على بعض جوانب مثل: كيفية تحديد مشكلة ما، و كيفية تحديد أهداف دراستها، و الخطوات التي تتبع في بحثها، و العقبات و الأخطاء المحتملة، و تحديد الحلول أو البدائل المختلفة في مواجهتها

.

ب- المراقبة والتحكم Monitoring & Controlling:

وهي مهارة تعني الإبقاء على الهدف الذي يقصده الفرد في بؤرة الاهتمام، و متابعة تنفيذه وفق تسلسل معين، و معرفة متى يمكن الانتقال من مرحلة إلى مرحلة تالية، و كيف تكتشف العقبات و الأخطاء، و كيفية التغلب عليها .. مثال لذلك: مراقبة الطالب لعملية تعلمه لمفهوم ما ، مراقبة المعلم للطرق التي يستخدمها لتحقيق هدف تنمية التفكير، مراقبة مدير المدرسة لطريقته في إدارة خطة الأنشطة المدرسية.

.

ت- التقييم Assessment:

و هي مهارة تعني مدى تحقق الهدف الذي نتطلع إليه، و كيفية الحكم على النتائج و مدى كفايتها، و تقييم الأساليب التي اتبعت، و الحكم على مدى فاعلية الخطة و تنفيذها .. مثال لذلك: تقييم المعلم لمدى فاعلية الطرق التي يستخدمها في تنمية مهارات التفكير لدى تلاميذه، تقييم الطالب لمدى فاعلية طريقته في المذاكرة، تقييم مدير المدرسة لمدى فاعلية طريقته في إدارة خطة الأنشطة المدرسية.

هذا و تعد استراتيجيات: حل المشكلات، اتخاذ القرارات من أفضل طرق تعلم مهارات التفكير فوق المعرفي.

مثال يوضح الفروق بين مهارات التفكير المعرفي و مهارات التفكير فوق المعرفي:

عند استعراض تقنية حديثة "كالحاسوب" و تعليم التلاميذ هذه التقنية، فإن (المهارات المعرفية) التي يحتاجها التلاميذ تتعلق بتاريخ اكتشاف هذه التقنية، و الوظائف التي تتحقق منها، و المعلومات المتعلقة بوصف أجزاء الكمبيوتر... بينما (المهارات فوق المعرفية) تتعلق بأسئلة يطرحها المعلم مثل: كيف يمكن وضع تصور للعالم يخلو من أجهزة الكمبيوتر؟ و كيف يمكن تعديل النظام المدرسي عند إدخال الكمبيوتر في العملية التعليمية؟ و ما هو حال البطالة بين العاملين عند تعميم استخدام الكمبيوتر لإنجاز عمل مؤسسة صناعية؟

هذا و يتفق معظم خبراء تعليم التفكير على التداخل و التشابك بين نوعي المهارات المعرفية و فوق المعرفية أثناء التعلم، و أن أي برنامج لتعليم التفكير يحب ألا يقتصر على تنمية عدد من العمليات المعرفية الدنيا أو المتوسطة، و إنما لابد وأن يرتفع إلى مستوى آخر

يتعلق بتنمية مهارة التلميذ على التفكير الذاتي، ودفعه إلى اتخاذ قرارات وإصدار أحكام و تقييمات للموضوع الذي يعرض عليه.. و تشير نتائج أبحاث تعلم التفكير إلى أن مهارات التفكير فوق المعرفي تنمو ببطء بدءا من سن الخامسة، ثم تطور بشكل ملموس في سن (11-13) (فتحي جراون، 2002). **وفي الإجمال فإن حيازة التلميذ لمهارات التفكير فوق المعرفي يعد بمثابة مؤشر قوي على امتلاكه للتفكير الإبداعي، ومقدمه تدل على أنه سوف يكون أحد المخترعين أو المطورين في مجال عمله.**

المرجع:

مصطفى عبد القادر زيادة، إسماعيل محمد الفقي، أحمد محمد سالم (2008)، المعلم و تنمية مهارات التفكير، مكتبة الرشد، الفصل الرابع، ص 140- 142.

Appendix J: Head of Department, Lecturer, and Student

Information Sheet

GRADUATE SCHOOL OF EDUCATION

Dean of the College of Education information sheet

Dear Mr/ Mrs/ Miss
This letter serves as an introduction for my research study, which will take place in the College of Education in your university. It will present all the pertinent information that you need to know about the study. These include the study's purpose, methods of data collection, participants, the estimated duration, and ethics procedures.
Below are the details of my research study:
The title of the study: An exploration of the presence and promotion of metacognitive skills in lecturers' teaching practices from lecturers and undergraduate students perspectives at the College of Education (COE) in a university in the Kingdom of Saudi Arabia.

The purpose of the data collection:
1. To find out how metacognition is understood by lecturers and undergraduate students.
2. To find out how and to what extent lecturers promote students' metacognitive skills during their class sessions.
3. To explore whether and how metacognitive skills are being promoted at the COE from undergraduate students' perspectives.
4. To find out what factors are likely to hinder the promotion of students' metacognitive skills and how metacognitive skills could be further promoted in higher education in KSA from lecturers' and undergraduate students' perspectives.

The methods of data collection will involve:
1. Classroom observations (lecturers, who will be observed twice)
2. Interviews (lecturers, who will be interviewed twice)
3. Group interviews (undergraduate students, who will be interviewed in two sessions).
4. Viewing some documents such as your university guideline and some courses handbooks.
5.

The study participants will consist of:

1. 12 Lecturers (Saudi and Non-Saudi) who teach classes in the pre-service teacher education programme.
2. 12 Undergraduate students.

Notes:
1. The observation will be non-participant in nature.
2. Both interviews and group interviews will be conducted in Arabic.
3. The study will be conducted in three departments: Kindergarten, Special Education, and Artist Education.

The study duration:
The study will require between 30 to 90 days and will be conducted during the second term of the 2015 academic year (from 08 Feb 2015 to 07 May 2015).

Ethics procedures

I have obtained an ethics clearance from the University of Exeter. I will ensure that all participants are given an outline of the research project, and involvement of any lecturers and students will be entirely optional. Should lecturers and students elect to participate, they will be asked to complete a consent form, and they retain the right to withdraw from the project at any time. The name of the institution and the names of all participants will be anonymised. All data will be stored securely according to British Educational Research Association guidelines (BERA, 2011).

I hope that I have introduced all relevant information with regards to my research study, and I would like to express my appreciation for your cooperation.

For further inquires please do not hesitate to contact me. Miss. Badiah Alnasib, Phone: +966504926380 in Saudi Arabia or +447771210677 in the United Kingdom or contact me via email balnasib@hotmail.com.
Should you have any concerns about this project that necessitate further discussion, please contact my supervisor(s) at Exeter University in the United Kingdom: Dr. Andrew Richards, email: A.J.Richards@exeter.ac.uk and Assoc. Prof. Dr. Carol Evans, email: C.A.Evans@exeter.ac.uk. We will be happy to answer your questions.

Date: / / 2014

GRADUATE SCHOOL OF EDUCATION
جامعة إكستر
كلية الدراسات التربوية

سعادة عميد كلية التربية

يعد هذا الخطاب كمقدمة لدراستي البحثية و التي ستنفذ في كلية التربية في جامعتك. تقدم هذه الوثيقة كل المعلومات ذات الصلة المتطلبة لجمع البيانات بالموضوع، التي تحتاج إلى معرفتها عن الدراسة. أهداف الدراسة وطرق جمع المعلومات، والمشاركون، والمدة و النهج الأخلاقي.

ستجد أدناه تفاصيل دراستي البحثية

عنوان الدراسة: دراسة لاستكشاف مدى تطبيق و تعزيز مهارات التفكير ما وراء المعرفي من خلال الممارسات التدريسية لعضوات هيئة التدريس من وجهة نظرهن ووجهة نظر طالبات الجامعة في كلية التربية في إحدى الجامعات في المملكة العربية السعودية

الهدف من جمع المعلومات:

1-الكشف عن مفهوم التفكير ما وراء المعرفي لدى عينة من عضوات هيئة التدريس في كلية التربية
2-للكشف عن مدى و كيفية تعزيز عضوات هيئة التدريس مهارات التفكير ما وراء المعرفي في الصفوف الدراسية
3-لاكتشاف ما اذا وكيف يتم تعزيز مهارات ما وراء المعرفة في كلية التربية من وجهة نظر طالبات الجامعة
4- لمعرفة العوامل المحتملة التي قد تحد أو تعرقل تعزيز أو تطوير مهارات التفكير ما وراء المعرفي للطالبات، و كيف يمكن تعزيز معارات التفكير ما وراء المعرفي في سياق التعليم العالي في السعودية من وجهة نظر عضوات هيئة التدريس و الطالبات.

أدوات جمع بيانات الدراسة، تتضمن:

1-الملاحظة الصفية (سوف يتم ملاحظة عضوات هيئة التدريس مرتين)
2- المقابلات الفردية مع عضوات هيئة التدريس
3- المقابلات الجماعية مع الطالبات(طالبات مرحلة البكالوريوس ، الذين سيتم مقابلتهم في جلستين منفصلتين)
40 الاطلاع على بعض المستندات و الوثائق مثل المبادئ و التوجيهات الارشادية في الجامعة و توصيف بعض المقررات الدراسية

المشاركون في الدراسة:

1-اثنتى عشر عضوة هيئة التدريس (سعودية/غير سعودية) واللاتي يدرسن في برامج إعداد "قبل الخدمة"
2-اثنتى عشر طالبة

ملاحظات عامة:

1-الملاحظة الصفية ، لن يشارك الباحث في الأنشطة الصفية أو عملية التدريس
2-سوف يتم إجراء المقابلات الفردية و الجماعية باللغة العربية
3-سوغ يتم إجراء الدراسة في ثلاثة أقسام: رياض الأطفال، التربية الخاصة، التربية الفنية

مدة الدراسة:

سوف تتطلب الدراسة فترة من 30-90 يوما ، و سوف يتم إجراؤها في الفصل الدراسي الثاني من العام الأكاديمي 2015 ، من (8 فبراير إلى 7 مايو)

الاعتبارات الاخلاقية

لقد حصل الباحثة على تصريح أخلاقي من جامعة إكستر، و سوف تحرص الباحثة على تزويد المشاركين بنسخة عن الخطوط العريضة للدراسة البحثية، و أن مشاركة المحاضرين أو الطالبات في البحث هي مشاركة اختيارية تماما. سوف يتعين على المحاضرين و الطالبات الراغبات في المشاركة إكمال نموذج الموافقة مع الاحتفاظ بالحق في الانسحاب من المشروع في أي وقت. سوف تحرص الباحثة على إبقاء اسم الجامعة و المشاركات سرية، و سوف يتم حفظ جميع البيانات بسرية وفقا ل المبادئ التوجيهية لجمعية الأبحاث التربوية البريطانية (2011)

امل أن أكون قد قدمت جميع المعلومات ذات الصلة بدراستي البحثية، و أود التعبير عن تقديري لتعاونكم.

: لمزيد من الاستفسار يرجى التواصل مع الباحثة
1- رقم الهاتف السعودي: 00966504926380
2- رقم الهاتف في المملكة المتحدة: 00447771210677
3- البريد الالكتروني: balnasib@hotmail.com
:في حال الرغبة في تفاصيل أخرى يرجى التواصل مع المشرفين الدراسيين في المملكة المتحدة
1- الدكتورة : شيرلي لاركن ، البريد الالكتروني S.Larkin@exeter.ac.uk
2- الدكتور: اندرو ريتشاردز، البريد الالكتروني A.J.Richards@exeter.ac.uk

سوف يتم منحك نسخة من هذا النموذج للاحتفاظ به
شاكرة لك تعاونك

الباحثة : بديعة بنت ناصر النصيب

كلية التربية ـــ قسم الاقتصاد المنزلي

التاريخ : /1436/5ةَ

355

GRADUATE SCHOOL OF EDUCATION

Lecturers' information sheet
My name is Badiah Alnasib and I am a PHD student in the Graduate School of Education. You are invited to participate in this study at the University of Exeter in the United Kingdom, which will help me to learn about metacognition thinking in general, as well as metacognitive thinking skills in particular and their application in your College. You have been selected as a potential participant in this research study because you are lecturer in the pre-service teacher education programme.

Description of study
If you kindly agree to participate, you will be involved in the following procedures, which are a part of my research study on metacognitive thinking skills in this pre-service teacher programme in Saudi Arabia:

1. **Observation:** With your permission you will be observed in your classroom twice. I will observe as a non-participant, and my observation will not interfere with yours teaching practices. You will be given the choice to view the structured observation schedule (Arabic version) prior to the observation. Also, I might need for assistant observers, either from the pool of participating lecturers or other staff members in your university, and you are welcome to take part in this.

2. **Interview:** You will be interviewed twice, The interview process will be conducted in Arabic and will take approximately 30 minutes. The focus of it will be on your understanding and practice concerning metacognition thinking in general and metacognitive thinking skills in particular. With your permission, the interview will be recorded and transcribed for the purposes of data collection. I will send the transcription to you for editing or verification (if any) before the processes of data analysis and publishing. The analysis of the study's data might shed a light on the importance of metacognition thinking and advocate the promotion and application of it in the pre-service teacher programme at your university. However, we cannot guarantee that you will obtain any benefits from this research study. Moreover, no monetary compensation will be provided for your participating in this project.

Confidentiality and Disclosure of information
All obtained information that is related to this research study and can be identified with you will be kept fully anonymous and confidential and will be disclosed only with your permission. If you sign this document, you consent to my publishing the study results to my supervisors and thesis examiners. A softcopy and hardcopy of the observation or records interviews might be provided to them as a proof of evidence. Regarding any further publication, the information will be presented in such way that you cannot be identified. No information will be disclosed to the Head of your department or the Dean of the College of Education or other staff members in your university.

Feedback to the participants

Upon the completion of my research study, a summary of the research findings will be sent via a posted email or an email to your university.

Your consent

Your decision on whether or not to participate will not affect you in any way as your participation is voluntary. Should you decide to participate, you are free to withdraw from the study at any given time.

If you have any further inquiries please feel free to contact me: Miss. Badiah Alnasib, Phone: +966504926380 in Saudi Arabia or +447771210677 in the United Kingdom or contact me via email balnasib@hotmail.com.

If you have any concerns about this project that necessitate further discussion, please contact my supervisor(s) at Exeter University in the United Kingdom: Dr. Andrew Richards, email: A.J.Richards@exeter.ac.uk and Assoc. Prof. Dr. Carol Evans, email: C.A.Evans@exeter.ac.uk.We will be happy to answer your questions

You will be given a copy of this form to keep.

Thank you for your cooperation.

GRADUATE SCHOOL OF EDUCATION

بيانات الدراسة

المكرمة عضوة هيئة التدريس

انا الباحثة بديعه ناصر النصيب، طالبة دراسات عليا (دكتوراة) في كلية التربية في جامعة اكستر في المملكة المتحدة. أنت مدعوة للمشاركة في الدراسة الحالية ، والتي ستساعدني على معرفة المزيد عن التفكير ماوراء المعرفي بشكل عام ومهاراته بشكل خاص و مدى تطبيقها في كلية التربية في جامعتك. لقد تم اختيارك كمشاركة محتملة في هذه الدراسة لأنك عضوة هيئة تدريس في برنامج إعداد المعلمات قبل الخدمة.

وصف الدراسة

إن تكرمك بالموافقة على المشاركة في المشروع البحثي الحالي، سوف تتطلب منك المشاركة في الإجراءات التالية والتي تعد جزءا من بحثي المتعلق بمهارات التفكير ماوراء المعرفي في برامج إعداد المعلم قبل الخدمة في المملكة العربية السعودية.

1- **الملاحظة الصفية:** بعد الحصول على تصريحك سوف تقوم الباحثة بملاحظتك مرتين في الصف الدراسي، سوف تتتبع الباحثة أسلوب الملاحظ الغير مشارك والتي لن تتداخل او تؤثر على سير العملية التعليمية أو ممارساتك التدريسية داخل الصف. نظرا لصعوبة استخدام التسجيل الصوتي او المرئي في الصف لاعتبارات دينية وثقافية قد تكون هناك حاجة الى ملاحظ مساعد سواء من عضوات هيئة التدريس المشاركات وذلك يشملك كمشاركة في الدراسة أو أي عضوات هيئة تدريس أخريات في جامعتك.بالإضافة إلى أنه لديك الخيار للاستفسار و طرح أي أسئلة تتعلق بالملاحظة الصفية التي ستقوم بها الباحثة.

2- **المقابلة:** سوف تجرى الباحثة مقابلتين معك، سوف تجرى المقابلات باللغة العربية. ستستغرق المقابلة الأولى حوالي ساعة واحدة وسوف تركز على مفهومك وتطبيقك للتفكير ماوراء المعرفي بشكل عام ومهاراته بشكل خاص. لغرض جمع بيانات الدراسة سيتم تسجيل المقابلات بعد الحصول على تصريحك ومن ثم إعداد نسخ مكتوبة منها. سوف ترسل لك النسخة المكتوبة للتحقق منها و تعديلها للضرورة (إن وجدت) وذلك قبل عملية تحليل البيانات وكتابة البحث النهائي أو نشره. إن تحليل بيانات الدراسة الحالية قد يسلط الضوء على أهمية التفكير ماوراء المعرفي ومهاراته ،كما قد يدعم الدعوة الى أهمية تعزيزه و تطبيقه في برنامج إعداد المعلم قبل الخدمة في جامعتك.   فيما يتعلق بالمقابلة الثانية فسوف تستغرق حوالي 15دقيقة.

السرية والإفصاح عن المعلومات

جميع البيانات المتحصل عليها والتي تتعلق بهذه الدراسة سوف تحفظ بشكل سري وآمن تماما. إن توقيعك لهذه الوثيقة يعني تصريحك و موافقتك على مشاركة هذه المعلومات مع مشرفي الدراسيين في جامعة اكستر والممتحنين لإطروحة البحث. سوف تبقى المعلومات مجهولة المصدر حيث لن يتم الإشارة اليك أو الكشف عن هويتك خلال مراحل الدراسة ، وفي حال الاشارة الى مصدر المعلومات سوف تستخدم الباحثة الاسماء المستعارة او الرموز (الحروف).أيضا ستحرص الباحثة على استخدام الاسماء المستعارة او الرموز اذا دعت الضرورة الى تزويد المشرفين الدراسيين والممتحنين بنسخ مكتوبة او الكترونية (أدلة ملموسة) للملاحظات الصفية والمقابلات المسجلة. فيما يتعلق بأي طريقة أخرى للنشر أو مشاركة المعلومات،فإن البيانات سوف تقدم بطريقة لاتسمح بالتعرف أو الإشارة إليك. سوف لن يتم الكشف عن أي معلومات لرئيس قسمك أو عميد كلية التربية أو غيرهم من العاملين في جامعتك. كما لن يتم اعلان او ذكر اسم الجامعة في البحث.

ملاحظات للمشاركات

1- عند انتهاء الدراسة الحالية سوف يتم ارسال نسخة من نتائج الدراسة للجامعة عبر البريد العادي او الالكتروني.

2- إن قرارك بالمشاركة أو عدم المشاركة في الدراسة لن يؤثر سلبا عليك بأي شكل من الأشكال حيث أن مشاركتك يجب أن تكون مشاركة طوعية.

3- لديك الحرية في الانسحاب من المشاركة في الدراسة في أي وقت من الأوقات إذا لم ترغبي في الإستمرار.

4- إن موافقتك على المشاركة في هذا المشروع البحثي لاتتضمن حصولك على أي تعويض أكاديمي أو نقدي.

آمل أن أكون قد قدمت عرض وافي لجميع المعلومات المتعلقة بالدراسة البحثية الحالية.

لمزيد من الاستفسار يرجى التواصل مع الباحثة :

1- رقم الهاتف السعودي :00966504926380

2- رقم الهاتف في المملكة المتحدة: 00447771210677

3- البريد الالكتروني: balnasib@hotmail.com

في حال الرغبة في تفاصيل أخرى يرجى التواصل مع المشرفين الدراسيين في المملكة المتحدة:

1- الدكتورة : شيرلي لاركن ، البريد الالكتروني S.Larkin@exeter.ac.uk

2- الدكتور: اندرو ريتشاردز، البريد الالكتروني A.J.Richards@exeter.ac.uk

سوف يتم منحك نسخة من هذا النموذج للاحتفاظ به

شاكرة لكن تعاونكن

الباحثة : بديعة بنت ناصر النصيب   التاريخ : /1436/5ه
كلية التربية ــ قسم الاتصاد المنزلي

GRADUATE SCHOOL OF EDUCATION

Undergraduate students' information sheet

My name is Badiah Alnasib and I am a PHD student in the Graduate School of Education. You are invited to participate in this study at the University of Exeter in the United Kingdom, which will help me to learn about metacognition thinking in general, as well as metacognitive thinking skills in particular and their application in your College. You have been selected as a potential participant in this research study because you are a student in the pre-service teacher education programme.

Description of study

If you kindly agree to participate, you will be involved in the following procedure, which is a part of my study on metacognitive thinking skills in this pre-service teachers programme in Saudi Arabia:.

Group interview: You will be interviewed with a group of students from three departments in your college; Kindergarten, Special Education, and Artist Education. The interview process will be conducted in Arabic in two sessions, and each session will take about 45 minutes. The interviews will not interfere with your lectures' time. The focus of it will be on your perceptions of whether and how metacognitive thinking skills are being promoted at your college. With your permission, the interviews will be recorded and transcribed for the purposes of data collection. I will send the transcription to you and other interviewees for editing or verification (if any) before the processes of data analysis and publishing.

The analysis of the study's data might shed a light on the importance of metacognition thinking and advocate the promotion and application of it in the pre-service teacher programme at your university. However, we cannot guarantee that you will obtain any benefits from this research study. Moreover, no monetary or academic compensation will be given for your participating in this project.

Confidentiality and Disclosure of information

All obtained information that is related to this research study and can be identified with you will be kept fully anonymous and confidential and will be disclosed only with your permission. If you sign this document you consent to my publishing the study results to my supervisors and thesis examiners. A softcopy and hardcopy of the records interviews might be provided to them as a proof of evidence. Regarding further publication, the information will be presented in such way that you cannot be identified. No information will be disclosed to your teachers or the Head of your department or the Dean of the College of Education.

Feedback to the participants

Upon the completion of my study, a summary of the research findings will be sent via a posted email or an email to your university.

Your consent

Your decision on whether or not to participate will not affect you in any way, as your participation is voluntary. You will not be penalized academically if you

refuse to participate. Should you decide to participate, you are free to withdraw from the study at any given time.

If you have any further inquiries please feel free to contact me. Miss. Badiah Alnasib, Phone: +966504926380 in Saudi Arabia or +447771210677 in the United Kingdom or contact me via email balnasib@hotmail.com.

If you have any concerns about the project that you would like to discuss, please contact my supervisor(s) at Exeter University in the United Kingdom: Dr. Andrew Richards, email: A.J.Richards@exeter.ac.uk and Assoc. Prof. Dr. Carol Evans, email: C.A.Evans@exeter.ac.uk.We will be happy to answer your questions

You will be given a copy of this form to keep.

Thank you for your cooperation.

UNIVERSITY OF EXETER

GRADUATE SCHOOL OF EDUCATION

بيانات الدراسة

عزيزتي الطالبة

انا الباحثة بديعه ناصر النصيب، طالبة دراسات عليا (دكتوراة) في كلية التربية في جامعة اكستر في المملكة المتحدة. أنت مدعوة للمشاركة في الدراسة الحالية ، والتي ستساعدني على معرفة المزيد عن التفكير ماوراء المعرفي بشكل عام ومهاراته بشكل خاص و مدى تطبيقها في كلية التربية في جامعتك. لقد تم اختيارك كمشاركة محتملة في هذه الدراسة البحثية لأنك طالبة في برنامج إعداد المعلمات قبل الخدمة .

وصف الدراسة

إن تكرمك بالموافقة على المشاركة في المشروع البحثي الحالي، سوف تتطلب منك المشاركة في الإجراءات التالية والتي تعد جزءا من بحثي المتعلق بمهارات التفكير ماوراء المعرفي في برامج إعداد المعلم قبل الخدمة في المملكة العربية السعودية.

مقابلة المجموعات: سوف يتم إجراء مقابلة معك مع مجموعة من الطالبات من ثلاثة أقسام : التربية الخاصة، التربية الفنية، و رياض الأطفال. سوف يتم إجراء المقابلة في جلستين باللغة العربية. كل جلسة ستستغرق حوالي 45 — 60 دقيقة. سوف لن تتعارض المقابلة مع أوقات المحاضرات. ستركز المقابلة على التعرف على وجهة نظرك حول ماذا يتم تعزيز مهارات التفكير ماوراء المعرفي في كليتك و عن الكيفية التي يتم بها ذلك. لغرض جمع بيانات الدراسة سيتم تسجيل المقابلات بعد الحصول على تصريحك ومن ثم إعداد نسخ مكتوبة منها. في حال عدم موافقتك على التسجيل الصوتي سوف تكتفي الباحثة بتدوين إجابات الأسئلة كتابيا. سوف يتم إرسال نسخة مكتوبة لك من إجاباتك فقط للتحقق منها وتعديلها للضرورة (إن وجدت) وذلك قبل البدء بعملية تحليل البيانات وكتابة البحث النهائي أو نشره. إن تحليل بيانات الدراسة الحالية قد يسلط الضوء على أهمية التفكير ماوراء المعرفي ومهاراته ،كما أنه قد يدعم الدعوة الى أهمية تعزيزه و تطبيقه في برنامج إعداد المعلم قبل الخدمة في جامعتك. من الجدير بالذكر أن مشاركتك في هذا المشروع البحثي لن يترتب عليه اي تعويض مادي أو أكاديمي.

السرية والإفصاح عن المعلومات

جميع البيانات المتحصل عليها والتي تتعلق بهذه الدراسة سوف تحفظ بشكل سري وآمن تماما وسوف لن يتم الإفصاح عنها او استخدامها الا بتصريح منك. إن توقيعك لهذه الوثيقة يعني تصريحك و موافقتك على مشاركة هذه المعلومات مع مشرفي الدراسيين في جامعة اكستر والممتحنين لإطروحة البحث. إضافة إلى أنه قد يتم تزويد المشرفيين الدراسيين والممتحنين بنسخ مكتوبة او الكترونية (أدلة ملموسة) للملاحظات الصفية والمقابلات المسجلة او المكتوبة. فيما يتعلق بأي طريقة أخرى للنشر أو مشاركة المعلومات، فإن البيانات سوف تقدم بطريقة لاتسمح بالتعرف أو الإشارة إليك حيث ستستخدم الباحثة أسماء مستعارة أو رموز (حروف) عند الإشارة الى مصدر المعلومات. سوف لن يتم الكشف عن أي معلومات تقدمينها لأستاذاتك أو رئيس قسمك أو عميد كلية التربية أو غيرهم من العاملين في جامعتك. كما لن يتم اعلان او ذكر اسم الجامعة في البحث.

ملاحظات للمشاركات

5- عند انتهاء الدراسة الحالية سوف يتم ارسال نسخة من نتائج الدراسة للجامعة عبر البريد العادي او الالكتروني.

6- إن قرارك بالمشاركة أو عدم المشاركة في الدراسة لن يؤثر سلبا عليك بأي شكل من الأشكال حيث لن يترتب على عدم مشاركتك اي عواقب اكاديمية. أن مشاركتك يجب أن تكون مشاركة طوعية.

7- لديك الحرية في الانسحاب من المشاركة في الدراسة في أي وقت من الأوقات إذا لم ترغبي في الإستمرار.

آمل أن أكون قد قدمت عرض وافي لجميع المعلومات المتعلقة بالدراسة البحثية الحالية.

لمزيد من الاستفسار يرجى التواصل مع الباحثة :

4- رقم الهاتف السعودي :00966504926380

5- رقم الهاتف في المملكة المتحدة: 00447771210677

6- البريد الالكتروني: balnasib@hotmail.com

في حال الرغبة في تفاصيل أخرى يرجى التواصل مع المشرفين الدراسيين في المملكة المتحدة:

3- الدكتورة : شيرلي لاركن ، البريد الالكتروني S.Larkin@exeter.ac.uk

4- الدكتور: اندرو ريتشاردز، البريد الالكتروني A.J.Richards@exeter.ac.uk

سوف يتم منحك نسخة من هذا النموذج للاحتفاظ به

شاكرة لكن تعاونكن

الباحثة : بديعة بنت ناصر النصيب   التاريخ : /1436/5هـ

كلية التربية ــ قسم الاتصاد المنزلي

Appendix K: Consent Forms for Lecturer and Student

Participants Involved in the Study

CONSENT FORM

I have been fully informed by Miss Badiah Nasser Alnasib about the aims and purposes of the current PhD educational project entitled "An exploration of the presence and promotion of metacognitive skills in lecturers' teaching practices from lecturers and undergraduate students perspectives at the College of Education (COE) at a university in the Kingdom of Saudi Arabia (KSA)", of Graduate School of Education, Exeter University, the United Kingdom.

I understand that:

> There is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation

I have the right to refuse permission for the publication of any information about me

> Any information, which I give, will be used solely for the purposes of this research project, which may include publications

> If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form

> All information I give will be treated as confidential

> The researcher(s) will make every effort to preserve my anonymity

..........................…………………..
....
(Signature of participant)
(Date)

…………………
(Printed name of participant)

…………………
Signature of Researcher
Name: Badiah Nasser Alnasib

One copy of this form will be kept by the participant; a second copy will be kept by the researcher(s)

Contact phone number of researcher(s): 00966505926380 - 00447771210677

If you have any concerns about the project that you would like to discuss, please contact my supervisor(s) at Exeter University: Dr. Andrew Richards and Assoc. Prof. Dr. Carol Evans.

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Arabic Copy of Appendix K

Graduate School of Education College of Social Sciences and International Studies

<u>استمارة موافقة</u>

لقد تم اطلاعي اطلاعاً تاماً من قبل الباحثة بديعه ناصر النصيب على أهداف وأغراض الدراسة الحالية والتي تحمل عنوان (مدى وجود تعزيز لمهارات التفكير ما وراء المعرفي لطالبات الجامعة من خلال الممارسات التدريسية لعضوات هيئة التدريس في كلية التربية في احدى الجامعات في المملكة العربية السعودية)، والتي يجري إجراؤها تحت إشراف كلية التربية في جامعة اكستر في المملكة المتحدة. أقر على أني ملمة الماماً تاماً بما يلي:

1- أن مشاركتي في المشروع البحثي الحالي مشاركة اختيارية وليست إلزامية، وأنه يحق لي الانسحاب من المشاركة في البحث في أي مرحلة من مراحله.

2- لدي الحق الكامل في عدم السماح بنشر أي معلومات خاصة تتعلق بي.

3- المعلومات التي سوف أقدمها، سوف تستخدم فقط لأغراض المشروع البحثي الحالي والتي قد تتضمن نشر البحث.

4- إن المعلومات التي سوف أقدمها من الممكن أن يتم مشاركتها مع الباحثين الاخرين في المشروع البحثي الحالي (إن وجد)، على أن لا يتم الإعلان عن مصدر المعلومات.

5- إن جميع المعلومات التي أقدمها سوف تعامل بسرية تامة

6- ستقوم الباحثة بكل جهد ممكن لعدم الكشف عن هويتي.

7- سوف تستغرق المقابلة الأولى حوالي ساعة واحدة، أما المقابلة الثانية فسوف تستغرق حوالي 15 دقيقة.

8- سوف يتم تسجيل المقابلات تسجيلا صوتياً

9- لا مانع لدي من تواصل الباحثة معي مرة أخرى إذا اقتضت الضرورة ذلك.

التاريخ	توقيع عضوة هيئة التدريس المشاركة	اسم عضوة هيئة التدريس المشاركة
....	........,.................................	....
التاريخ	توقيع الباحثة	اسم الطالبة الباحثة
....	....	....

د النصيب

سوف تحتفظ العضوة المشاركة بنسخة من هذا النموذج، كما ستحتفظ الباحثة بنسخة أخرى

بيانات الاتصال بالباحثة
هاتف: 00447771210677 /00966504926380
البريد الالكتروني: com.hotmail@balnasib.
إذا كان لديك أي استفسارات أخرى تودين مناقشتها، يرجى التواصل مع المشرفين الدراسيين في جامعة اكستر:
مشرف أول: الدكتورة: شيرلي لاركن
S.Larkin@exeter.ac.uk
مشرف ثان: الدكتور اندرو رتشاردز
A.J.Richards@exeter.ac.uk

قانون حماية البيانات: جامعة إكستر هو أحد هواة جمع البيانات ومسجل لدى مكتب مفوض حماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات لعام 1998. وسيتم استخدام المعلومات التي تقدمها لأغراض البحث وسيتم معالجتها وفقا مع تسجيل في

الجامعة والتشريعات الحالية لحماية البيانات. ستكون البيانات السرية للباحث (ق) ولن يتم الكشف عنها لأي طرف ثالث غير مصرح بها دون مزيد من اتفاق من قبل المشاركين. سوف تكون التقارير استنادا إلى البيانات في شكل مجهول المصدر

Appendix L: Metacognition/Metacognitive Skills Definition

Metacognition

'Metacognition' refers to an individual's awareness or knowledge about his/her cognitive processes and his/her ability to regulate and control them in the learning process (Hartman, 2001; Schraw & Moshman, 1995; Veenman *et al*., 2006).

التفكير فوق المعرفي

يشير التفكير فوق المعرفي إلى ادراك أو معرفة الفرد حول العمليات الذهنية الخاصة به أو قدراته على الضبط والسيطرة عليها في عملية التعلم (هارتمان 2001، شراو و موشمان 1995، فيينمان 2006).

Metacognitive Skills

'Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills (Veenman *et al*., 2004; Veenman & Verheij, 2003).

مهارات التفكير فوق المعرفية

مهارات التفكير ماوراء المعرفة يعرف كمجموعة من الأنشطة التنظيمية التى يعمل المتعلم على التنظيم والتحكم في تعليمها أو تعليمه، بالتخطيط والمراقبة والتقييم ليكون نموذج لهذه المهارات (فيينمان، 2004- فيرهيج،2003).

Metacognition

Picture source: clipartsign.com

Metacognition Definition

'Metacognition' refers to an individual's awareness or knowledge about his/her cognitive processes and his/her ability to regulate and control them in the learning process (Hartman, 2001; Schraw & Moshman, 1995; Veenman *et al*., 2006).

Schraw and Moshman's Model of Metacognition (1995)
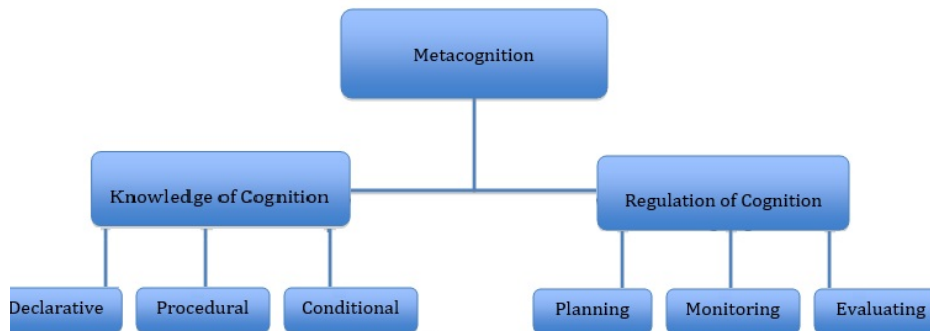
2.1. Schraw and Moshman's (1995) Framework of Metacognition

Metacognitive Skills

'Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills (Veenman *et al*., 2004; Veenman & Verheij, 2003).

Planning skill
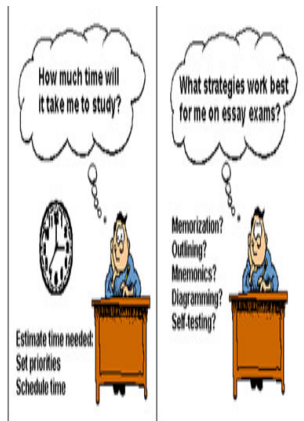
Planning skill "involves the selection of appropriate strategies and the allocation of resources that affect performance" (Schraw & Moshman, 1995, p. 354).

Goal setting, selecting strategies, goals & strategy sequencing, allocating of resources and time are examples of activities involved in this skill.

Picture source: clipartsign.com

Monitoring skill

Monitoring skill "refers to one's on-line awareness of comprehension and task performance"(Schraw & Moshman, 1995, p. 355). In short, one's ability to check one's progress towards the goal's achievement.

Engaging in self-testing or self-evaluating during learning is a good example of monitoring.

Evaluation Skill

Evaluation refers "to appraising the products and regulatory processes of one's learning" (Schraw & Moshman, 1995, p. 355).

Re-evaluating one's conclusions and goals is a typical example of one's ability to evaluate.

Picture source: landportnews.net.

References

◻ Hartman, H. (2001). Developing students' metacognitive knowledge and skills (Chapter 3). In H. J. Hartman (Ed) 2001. Metacognition in learning and instruction: Theory, research, and practice. Dordecht. The Nethwlands: Kluwer Academic Publishers. Pp. 33-68.

◻ Schraw, G., & Moshman, D. (1995). Metacognitive theories, *Educational Psychological Review*, 7(4), pp.351-371.

◻ Veenman, M. V. J., & Verheij, J. (2003). Teaching students' metacognitive skills: Relating general vs. specific metacognitive skills to study success. Learning and Individual Differences, 13, p. 259-272.

◻ Veenman, M. V. J., Wilhelm, P., & Beishuizen, J. J. (2004) The relation between intellectual and metacognitive skills from a developmental perspective. *Learning and Instruction*, 14(1), 89-109.

◻ Veenman, M. V. J., van Hout-Wolters, B., & Afflerbach, P. (2006) Metacognition and learning: conceptual and methodological considerations. *Metacognition and learning*, 1(1), 3-14.

Thanks

Appendix N: Summary of Lecturers' Interview Theme Categories

Theme	Code/example
1.Understanding of MC	Decision making
	Planning and problem solving
	Implicit curriculum
	Meta-knowledge gained through experience
	Measuring information
	Higher cognitive abilities
	An individual notices and evaluated herself
	Understanding own self and reflect on action
	MC is human development
	Talented human
	Individual's own thinking style
	Organised and accurate thinking
	Extracting information from given information
	Background knowledge
	Thinking that is built on point of view
	I have no knowledge
	Can be unconscious process and spontaneous
	MC a natural thing not complicated
2.Benefits of metacognition	Life in general/ planning for life
	Solving social/life problems
	Draws approach to life
	Linking academic study to life matters
	Applying metacognition in new situations
	Academic work (planning for study)
	Ease the academic study
	Develop knowledge of how to study and think
	Success in University stage
	Work efficiency
	Handling own self and teamwork
	Better life choices and career opportunities
	A function of teaching
	Thinking logically
	Improving critical thinking
	Raising self-awareness of strength and weaknesses
	Self-confidence
	Self-improvement in future
	Self-evaluating
	Developing a person character
	Develops a need to take responsibility

	Communications and relations with others
	Acquiring new information
	Understanding and comprehension
	A student becomes a self-learner
	Talents in several fields
3. Uncertainties about the importance of MC	How employing metacognitive thinking in the course will affect me?
	Am with its employment, but if it does not have a large benefits we can do without it.
4. Awareness of cognitive processes	Grow with age
	Personal experience
	Developed by others
	Nature of a course
	Nature of teaching
	A student tendency
	Adopting teacher/lecturer style
	Participating in activities
5. Responsibility of teaching how to think/learn	Lecturers fully responsible
	A lecturer responsible as this a part of her job 'teaching'
	Lecturers partly responsible
	A student responsible and lecturer work as a guide
	A student has a awareness of her responsibility as a learner.
	A student can learn on her own without any help
6. Metacognitive strategies are teachable.	Within courses
	Within teaching methods courses
	Separate courses
	Not to a large degree in Art Education.
7. Teaching Strategies suggested	Explicit instructions Explicit and implicit methods
	Practical (application/presentation) Group learning/cooperative learning *
	Active learning Interactive presentations
	Strategic planning style Micro-teaching
	Problem-solving Modelling (process/thinking)*
	Reciprocal teaching Reading in general
	Self-learning* Self-questions

	Questions strategy Evaluating strategy
	Brainstorming
	Discussion and dialog
	Role-play
	Reinforcement Theory*
	KWL strategy (what I know, what I want to know, what I learned)
	Providing a glimpse of the nature of the course from the beginning.
	Students' pattern affect the choice of teaching strategies
8. Questions in a classroom	Factual questions
	Structuring questions: Is it clear?
	Prompting questions: what made you say this?
	Reflective questions
	Open-ended questions
	Reasoning questions
	Questions gradual from students' high to low level
	Dealing with wrong answer
	Questions which elicit a negative response
9. Type of assignments	Case study
	Presentation
	Micro-teaching Artistic projects
	Designing an activity Designing learning aid
	Writing a report Doing research
	Poster
	Freedom to choose the topic of the assignment
10. Lecturers' secondary goals	Connect a course to life
	Application of information
	Deep knowledge of course
	Love the course
	Personal formation of students
	Growth perception
	Mental development
	Religious and affective values
	Religious, emotional, cognitive, and educational goals
	Self-learning
	Dialog and discussion
	Listening and visual skills
	Ability to critique and evaluating
	Thinking and creative skills
	Quality of learning

	Raising motivation	
	Artistic sense	
	An artist	
	Developing an artistic or creative intrests.	
	Ability to reach an individual goals	
	Ability to convince others	
	Making society appreciate the University student	
	Appreciate of others' confidentiality	
	Research skills	
	Balance between practises and theory	
	Making student understand that she is not studying for gradea or certificate.	
11. Planning Strategy	Having students to plan their work (lesson activity, project, presentation)	
	Clear planning elements	
	Ordering of a plan elements	
	Bloom's taxonomy and goals formulation	
	Short-long term targets	
	A plan should be followed step-by-step	
	Declarative a module/lecture goals	
	Investigating planning for next lecture	
	Planning usually done by a lecturer	
	Providing a course plan	
12. Monitoring Strategy (how lecturers monitor a lecture goals)	Constructive evaluation	Final evaluation
	Interaction	Students response
	Application	discussion and dialog
	Questions	Students' questions
	(inside/outside)the lecture	
	Asking for feed back	
	Harmony between students and discussion	
13. Evaluating Strategy	Engage a student in self-evaluating	
	Having students to evaluate classmates' performance	
	Clarifying the aim of evaluating	
	Identifying strength and weaknesses	
	Having students to prepare the evaluating form/card	
	Providing clear criteria of evaluation	
	Clear criteria for a kindergarten teacher	
	Focusing on evaluating a presentation content	
	Evaluating only good presentation	
	Learning from mistakes	
	Experiencing an evaluator position	
	Reflecting on an individual performance	
	Objectivity should be considered while carrying out	

	evaluating
	Students lack the ability of objective evaluation
	Students lack of objectivity while doing courses' evaluation
	Evaluating is a problematic issue
	Sensitivity
	Evaluating and problem solving
	Practicing evaluation would help students socially
	Encouraging students to accept criticism.
	Evaluating involves thinking and application aspects.
	Evaluating has a relation to planning
	Having students to evaluate the exam of mid-term
	Encouraging students to reflect on assessment results
	Chances to investigate/object on scores
	Chances to review the exam sheet
	Explain how scores are divided.
14. MC knowledge task	Encouraging students to link courses
	Encouraging students to link topics
	Activating previous knowledge
	Providing students with learning resurces
15. Society (Al-Hasa)	Closed
	Small
	Saudi society is more private
16. University	University guidelines does not address MS in a direct way
	The absence of MS from the University guidelines
	MC does not exist in the descriptions' of art education courses
	Routine and too much system
	MC limited to theoretical aspect
	Vague vision
	The dominating of administrative aspects
	Theoretical focus on students
	No details
	Art department's meetings do not focus on the department needs.
17. Classroom environment	Not stimulating for cooperative learning
	Unsuitable layout
18. Lecturers	Lack of familiarity of University vision, mission, and goals
	Lack understanding of MC
	Lack of application of MC
	Lecturers' expectations of university student
	Traditional teaching style
	Teaching methods that they use

	The absence of teaching triangulation currently
	Focusing on information
	Individual differences among lecturers
	Difference in efforts done
	Lecturers' lack of educational background
	Lecturers' lack knowledge of teaching methods
	A lecturer lack the ability to mark expressive or essay questions
19. Students	Large number
	Character/pattern
	Beliefs, and instructions they used to knowledge
	Lack of motivation
	Lack of acceptance
	Lack of readiness to study
	Stuck to high school level
	Depending on memorizing
	Depending on memorizing and numerical methods.
	Studying methods
	Individual differences
	Educational background: student depends on initiation
	Family background
	Dependency and lack of responsibility
	Academic level (high-average- low)
	Dislike the area of specialization
	Unaware of their abilities and skills
	Lack ability to apply courses information to solve life problems
	Lack the ability of expression
	Innovative and creative skills
	Lack of self-confidence
	Lack of cultural knowledge
	Lack of reading
	Lack the ability to link theoretical courses and practical training
	Rely a lot textbooks
	Difficulty to change what students was used to for 15 years
	Students would not limit the application of MC
20. Course	Course nature
	MC irrelevant to a course
	Description (thick, long)
	Description is similar in theoretical and practical courses (in art education)
	Courses overlapping

	Lecturers allowed changing 20-25% of a course description. The absence of a lecture written plan
21. Time	Lecture limited time 3 years not enough to teach students additional things besides the specialisation subjects.
22. Exams	Type of exams may direct students to the answer The nature of the exams' questions (focus more on objective questions) Objective questions deprive students from expressing her thoughts. Type of academic assessments (mid-term and final) exams.
23. Incorporating MC in Education in general	MC should be at the early education phases Integrating MC in high school stage Reforming schools curriculum Modifying teaching strategies from the beginning (primary-elementary- high schools) MC should be an implicit application within the framework of educational system.
24. University/college/department	Decision should be made by a full study curries out by the university scientific council group. Setting new vision includes MC Focusing more on students' development Professional development of lecturers Courses and practical workshops by experts and professionals specialized in MS development. Raising lecturers' awareness of MS Workshops/training courses/configured cycle Compulsory workshops MC as a standard of a lecturers evaluation Providing incentives for a lecturer who applies it Improving classrooms environment
25. Lecturers	To improve we have to start with the university lecturer Reconsideration teaching methods Correcting in the nature of learning pedagogy Diversifying teaching methods Diversifying exams' questions. Activating MS in the classroom Integrating MS within the course Teaching MS in a direct way Allocating some marks as a stimulation for students to develop MC. Developing the concept of learning for learning Exams should cover six thinking skills

26. Students	Human development course
	Practical workshops/training course
	MC as a separate module
	MC as a separate module in preparatory year
	Making MC background for students
	Moving students' learning style from high school framework/leve
	Raising students' self-awareness
27. Lecturers unfamiliar/not with the university vision, mission, objectives	Lack familiarity
	Have no knowledge of it
28. Cultural differences	Teaching style
	In Tunisia a university is an independent learner
	In Tunisia teaching encourages students to use their own words to express their knowledge.
	In Egypt, students' are engaged in teaching process
	Saudi society is more private
	Al-Hasa society closed compare to Egypt
	In Egypt, no textbook for a course
	In Tunisia, no handbook or CDs are given to students.
	In KSA, teaching of a course relay on one textbook
	In Egypt, no optional course
	In Egypt students focus on benefits more than high grades.
	In KSA students focus on getting high scores
	In Tunisia, lecturers do not give questions that direct to answer.
	Both Saudi and Egyptian students are Lack of cultural knowledge
	Difference between Arabic and western thinking style
	In Arabic society we lack the application of strategies such as MC as methods or style of working (Arabic society more focus on theory).
	Difference system between American university and Egyptian university
	In the USA learning depends on a student self-learning
	'Fun learning does not exist in KSA
	In KSA a university student comes as a white page
29.Transformation	Transfer knowledge to practice
	Planning strategy from academic work to life
	Evaluating strategy from academic work to life
	Lecturers' own learning style to students.
	Students may adopt teachers/lecturers methods
30. Subject domain	Curriculum and teaching methods courses are best to teach MC

	most plans were done in the strategic course Educational courses are best to teach MC Practical courses are best to teach MC Cognitive development course is best to teach MC college of management
31. Thinking skills	Encouraging students to use steps of scientific thinking Encouraging students to use thinking skills
32. Learning/studying style	A lecturer provides tips related to study approaches (group, individually) A lecturer investigate a student learning/studying style (individual, group)
33. Grade's improvement	Improvement exam Additional departmental activities (optional) Additional assignment
34. MC do exist	In kindergarten programme Exist even view Exist through the Quality Deanship efforts, but needs for time Exists implicitly Exists in another terminology Each goal of the college of education and the university feeds into the development of MC, but not applied. Might be exist in teaching and pedagogy courses
35. Lecturers belief of students' MS	Students have MS but do not use them Students do not have MS MC suit students with a high and average academic level
36. Lecturers' expectations of a university students	A student understand the university life A university student has core skills: e.g. language, expression way, and speaking.
37. Students' expectations	Good Grade point average 'GPA' Perfection stages Full mark Qualification, certificate
38. Relationship with students	Mother-daughter No fear Uncomfortable relation leads to failure or withdrawing
39. Teacher has two role in a classroom	Building a student character Making a student like a subject/learn it.
40. Currently the barriers between teacher and student have increased	
41. Academic grades not a standard for successful in career, life, or performance	

42. Acquiring knowledge not the ultimate goal	
43. Lecturers not the only source of information	
44. MC needs to be in every area	
45. Good job requires good scores in KSA	
46. Students do not have the spirit of inquiry or curiosity	
47. Examples of workshops for professional development	Emotional thinking Logical thinking Critical thinking Thinking skills creative thinking rational thinking teaching methods
48. Students' number influences the type of an exam questions.	
49. The cons of objective questions	
50. The textbook limits a lecturer ability to distinguish between educated and non-educated student.	
51. Writing skill	Writing indicates to a student level Students do not know how to write or write ideas in a sequence. Writing/editing question give a lecturer an idea about the individual differences among students.*
52. Internet, iPad, and iPhone make someone out of education	
53. Human brain is a complex thing	
54. Developing scientific and professional aspects	
55. Work skills develop through experience	
56. Fundamental skills of a lecturer or a student	Discipline in time management Attending and listening skills Rights and responsibilities of both
57. Reinforcement has a positive impact on a child more than a university student	
58. Discussion and dialog have no value for a Bachelor student.	
59. Self-learning did not build in education in KSA	
60. Some students do not prefer cooperative learning	
61. Modelling of thinking may not be advisable in art.	
62. The handbook of a course should not be	This may lead a student to underestimate the lecture

given at the beginning.	or to absent
63. The nature of exam questions may not suit the students' method of study.	
64. Distance learning	382
65. Checking goals' achievement of a lecture is complicated in University	
66. MC suit students with high & average academic level	
67. Group learning does not address individual differences	
68. Department assiduity	

Appendix O: Examples of the Thematic Analysis of Lecturers' Interviews, Students' Interviews, and Lecture Room Observations

Example of the Analysis of a Lecturer's Interview
Kindergarten Department

> **Metacognition: MC , Metacognitive Skills: MS , Planning Skill PS , Monitoring Skill: MSs , Evaluating skill: ES**

Interview	Code	Categories	Theme	Description
Section One: Demographic Information Would you please introduce yourself? Name: Shadia Nationality: Egyptian Major: Kindergarten Philosophy Education, Specialization: Language skills Teaching experience: I worked as a University teacher since 1997 until I awarded the PhD. It is five years now after that degree.				
Section Three: Lecturer's Role and Practice in the Lecture room **Besides teaching the course content, what other things are interested in providing your students with? Why?** Look, anything I give the student; I treat it as a part of the formation of her personality and benefits of her life. Today, for example, it is about how a kindergarten teacher can formulate goals of the activities that she will provide the children. She will plan her experiences for the children based on these goals, after I explained how they would formulate these goals. The talk was about kindergarten, I was keen to the end of the lecture to say to them that your life is also part of this, you learned what was about the goal. It is supposed that your life won't go randomly, even in your house, family and your relationships with your friends, you have to set your goals and identify your goals of your life. This is an example because you link this to her life, personal formation, growth perception and mental development. I was lecturing away from the major, which is to talk about the children in kindergarten, in a way that does not draw the basic goal of the lecture that is Specialization. Also, I confirm the religious values; I am always keen on linking the work of the children that God can see her in the class and what she	you have to set your goals and identify your goals of your life	Transformation of PS & ES	Teaching for MS	Suggestions of best approaches to teach MS

does with the child who represents her responsibility. I told them you did not do this because I am evaluating you, no, you do this because those children are your responsibility. I always tie her moral and religious aspect that she does this to satisfy her conscience, that God will reward her because of this. I always say to them that the kindergarten teacher is a great source to earn a reward if she is sincere in dealing with children.				
Is teaching students how to learn and think your responsibility? Please elaborate why the answer is yes or no? I always speak about the course goals at the beginning of each year. When I speak about the course goals, I consider the life's goals. I tell them one part of you wants to work after graduation, the second part decides to travel or to continue your study whether inside the country or abroad, and the third part decides not to work. I consider the three categories, whatever is your goal., in all situations you will be benefiting even if you do not find a job. So try to benefit from this information in your life I always depend on the strategic planning style that is based on points of strength and weakness and allow chances. I mean obstacles or challenges; I always tell her, you have these four things inside you. There are points of strength, how can you use them? Inside you, you have points of weakness, how could you try to get rid of them, and replace them with strength points? There are people who study better visually, those who are called Opticals. If you are an optical person, you see more and rely on what is in front of you. For example, the PowerPoint, which is presented to you during the lecture or you rely in opening your book and look at written lines. Use more senses, when you use more senses (more than one sense) in your study, you will get better results. Make a map, I used to study on maps formation. I mean, whenever I found a chance to give them a general advice, whether, during my teaching course or any course, you can study by this way..	When I speak about the course goals, I consider the life's goals. the strategic planning style	Transformation of PS & ES Active teaching methods	Teaching for MS Teaching for MS	
Could you give me some examples of when you ask your students to plan their work? For example, during the Teacher-Preparing course, I prepare her to beat the end, able to stand in educational teaching position inside a kindergarten and do an activity for the child. Her activity could be of several pictures or many fields. She chooses the field and identifies goals, content, activity, teaching aids, and strategies. She stands in the classroom in an educational situation. There is something called a micro teaching, she stand and teach as if she exactly standing in the middle of a group of children. But the difference here is that her classmates are the children, this will enable her to recognize her positives, and her classmates will identify the advantages and disadvantages of the teaching	She prepares the activity, … The activity content; the goals, content, teaching aids, tools,	*Promoting of the PS*	Lecturers' apply or promote MS	Metacognitive skills a set of regulatory activities or processes that a learner employs to regulate and

384

process. She will learn from her mistakes and will recognize or know her strength and weakness points, and what should be done at a specific time. It is like a representative position (she behaves like a teacher). She prepares the activity, and this is the most important thing. The activity content; the goals, content, teaching aids, tools, strategies, and evaluating styles (note: The order here is important). Also, she prepares the practical performance, preparing her activity and after that she stands and presents it in the class. In the Teacher Preparing course the main goal is the teacher characterizes all features. The good characteristics and sufficient skills are to be the comprehensive teacher for the child. This activity includes all skills that she studies in all the year and all features and characteristics that appear through it. This activity is an item that shows all characteristics of the year, and all subjects that I taught her were fully met when applying one activity.	strategies, and evaluating styles (note: The order here is important).			control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills *Planning skill "involves the selection of appropriate strategies and the allocation of resources that affect performance*
During lecturers, how would you check your progress towards the lecture's goals? We follow two styles to check goal's accomplishment. The first one is the constructivism or continuity evaluation that occurs for all of a lectures. I mean during my teaching of one section I introduce oral questions and ask them to provide responses. They know my approach, of course, they are keen to participate because they know that I put marks for each answer. This increases the percentage of their listening and attention during the lecture because they know that there are oral questions. Thus, the attention is being high. Of course, through their answers and responses I feel, for example, that this part did not go well, so I repeat it. If there was no response at all, then I explain that item in another way. If I found good responses then move to the next subject. This is the constructive evaluation that continues during the lecture. Also, the final evaluation is possible at the end of the (lecture – week-unit) based on the topic. It is possible that the topic finishes by the end of the lecture, so I ask them, for example (our work is mostly based on practical parts/things) to make a picture. Okay, each one of you has to write a goal. Each one writes an item and introduces that to the class. It is possible for me to take examples from 2 to 3 students to represent a specific subject. This is mostly the final evaluating style. But, to be honest, the final evaluation does happen during every lecture. I mean it is possible if the topic needs some lectures. When I do the whole subject, then I check its goals. Besides, of course, the basic assessments are the mid-term exam,	the constructivism or continuity evaluation the final evaluation The student starts to gather her information from other courses and starts to answer (activating prior knowledge) Practical application	*Presence of MSs*	Lecturers' apply or promote MS	Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills *Monitoring skill, one's on-line awareness of comprehension and task performance*

practical assessments that they take all the year and the final exam at the end of the year.In addition to that, I keep repeating the explanation of the item a lot during the lecture. **Have you encouraged your students to check or monitor their performance/progress/understanding during the class? If so, how?** **Answer:** We have overlaps within some subjects, it is considered as integration among the courses, and it is not repetition, what does this mean? There are parts can be found in more than one course or discipline. When I teach, I know that the students have studied this part/section in another course. If I know that she has knowledge about that part, then let her answer before I explain that item. The student starts to gather her information from other courses and starts to answer. Here I benefit two things; the student will recognize that she understands or what she lacks in. I mean what she does not understand; the second advantage, I can reach the present students to know their level of knowledge in advance, and then to complete the subject. I mean I use their information as a starting point for me, and then I move on. So it will not be a repetition of the previous subjects they studied before and then I move to the next items, which are not known to them yet.				
Could you give me some examples of when you ask your students to evaluate their work? **Answer:** For example, the basis of the "micro-teaching" is that the student stands in a class or at an educational situation of the children and all her classmates carry out evaluate tasks. They identify her performance pros and cons. After this they exchange positions, she stays, and the rest of students will individually stand and do the same role. The rest will evaluate pros and cons, in this way, she exactly evaluates herself, and she would recognise her pros and cons before she goes to the actual field that is the real nursery school. It is a guided evaluation, I distribute evaluation forms. First, they study the criteria form, which consists of the features' or characteristics' of a kindergarten teacher. There are certain criteria for evaluation. They need to comprehend that criteria, because I do not want to evaluate her on items that she does not know. I say to her, as an example, my evaluation is based on your capabilities. Your appearance with a child is supposed to be simple, modest and less of details. Thus, the child will not wander about the details. For example, if the colours are simple and plain such as one colour, this is considered as the characteristics' of appearance. Also, how she uses her voice. Voice skills such as variations of the sound tone, voice imitation, imitation characters, and imitation of animal sounds. As much as she can be able to diversify her voice, this represents a criterion of the criteria. We have a big list of the criteria, which we	all her classmates carry out evaluate tasks. guided evaluation, I distribute evaluation forms.	*Promoting of the ES*	Lecturers' apply or promote MS	Metacognitive skills a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills *Evaluation refers to appraising the products and regulatory processes of one's learning*

evaluate the student on, and she must know it previously to judge/evaluate her objectively. She knows the criteria and bearing them in her mind. At the beginning, she deliberately bears them in her mind, but I say to them you with time will acquire their flexibility; it will be your features.				
Section Four: Metacognition **What do you understand by the term metacognition?** **Answer:** According to my limited knowledge, metacognition is not just information or knowledge. When I give information, other implicit goals differ from the information that I give are happening by chance. We called this in education as an implicit curriculum. This implicit curriculum is parallel to the principal curriculum. The principal curriculum has its specific and permanent goals. It is mostly related to knowledge aspect or major. However, the implicit curriculum is occurring by chance alongside the principal curriculum. I give values on the style of my message presentation. That may achieve goals, but they are not cognitive goals but include the simples. In other word, there are simple cognition goals if those be generalized then they will give deeper and further meanings.	an implicit curriculum.	Misconception of MC	Conception of MC	Metacognition' refers to an individual's awareness or knowledge about his/her cognitive processes and his/her ability to regulate and control them in the learning process
Do you think that metacognitive skills can be taught? Please give the reason for your answer. Yes, of course, I think it should not be taught within courses but as a separate course. I mean, in the Education College, we can suggest a course of "Metacognition". I think there are colleges, I do not know their names, they have self-management, I mean it is not the College of Education only, but also other colleges, which have a connection to management. However, there are other majors, this (The metacognition skills) will be far for colleges or majors such as Engineering and Health. I also believe that we need for a supplementary courses or Human development. Metacognition could help to increase or deliver the idea of human development.	it should not be taught within courses but as a separate course Metacognition could help to increase or deliver the idea of human development.	University/ College/ Department as the Base to Develop Metacognition MC & human development	Incorporating MC into Higher Education in KSA Benefits of MC	Approaches and procedures that would help in incorporating metacognition in higher education in KSA Metacognitive benefits or positive gains of the development of students' MC

From your perspective what teaching strategies are best to enhance students' metacognitive skills? How would you encourage/facilitate your students' learning and thinking about thinking or metacognition? This depends on the nature of your selected sample. I mean you will meet students who already have the desire to learn, they are easy to teach and to learn with direct and easy way. You tell them, look we are now the same. Your goal is their goal too, so the two (teacher and students) are agreed that they want to know how to study, how to succeed and how to achieve their goals? There is no difference between the teacher & the student; the goal is clear. Thus, there is no problem to use explicit style. I give it to them in direct and intended way. The problem is with the sample that does not have the desire to learn and does not have the motivation. They say "You are not going to teach us how to learn, are you?" If you say this to them "I will teach you how to learn" directly, they will not accept that. I think for this sample of the students, we need to join both styles (explicit-implicit). We need to rely more on the implicit curriculum. She will unconsciously learn, without knowing that she is learning in an explicit way. We need to rely more on the implicit curriculum with those who do not have the desire to learn.	(explicit-implicit) instructions	Active teaching Methods	Teaching for MS	
Q: When a student provide you with an answer, do you ask her how she reaches this answer? Does this happen? I think this happens with items that involve understanding and specific thinking levels because some parts are related to retaining and memorizing. Thus, it is difficult to ask her how she approached these answers, because she could keep them by heart and directly say them to you. However, if there some parts are related to a problem-solving such as solving a math problem with children, or maze or solving a specific problem with a child. Here, I could ask her how you reached the solution. It is possible to discover that two students, for example, can solve a same problem, but each one uses a different method. I mean, prompting questions that considered helpful in encouraging metacognition could be applied with items that involve understanding and specific thinking levels, while it might not appropriate with some parts [that] are related to retaining and memorising. Hence, it is difficult to ask [a student] how she approached these answers, because she could just know them by heart and directly recalls them to you.	prompting questions & nature of the curriculum	The curriculum as a challenge	Potential challenges influencing the development of MC/MS	Factors that likely to limit the promoting of MC in Higher Education in KSA
		Active teaching Methods		
	Problem-solving:	Active teaching Methods	Teaching for MS	
	Modeling		Teaching for MS	
Problem-solving: She thinks of solving a problem, you (teacher) suggest a certain problem and she thinks of a solution and she passes many steps to reach a solution. For example, carrying out a plant germination with a child, we followed with a child the process of plant growing in a small pot. After one week, we discovered that some grew while other were not. I				
		Lecturers'		

introduced a problem here, why didn't that one grow? Some plants died, why? We discovered reasons, for example, no sun, water was not enough or plenty of water, or soil is not fertile or a non-cohesive soil. I taught this example in Education Styles and Breeding Methods course. Q: Does this happen? You assign your students to do a task, and they are unable to do it. Thus, you start presenting your thinking steps if you would do the same work. We always do this because they perform the activity for the students. An example of this is telling a story, they seem unable to perform it. Thus, I imitate the storyteller character and voice, how to diversify in the storyteller characters by voices/sounds? How to imitate voices? How to use your voice, how to use your body language in the performance? Q: After a micro-teaching and the student's classmate's evaluation, do you provide a student with some suggestions that could improve her performance? Answer: One of the micro-teaching goals among other things that it gives me an advantage, which does not exist in the training practice. Training practices are the real fields, I mean I could interfere when something went wrong and ask her to stop. This is not supposed to be like this, but I cannot do this in front of the children. I do not wait until the end, no, this happens step-by-step. When she does the activity, I may say to her what you think if you do it in this way, it would be much better.	Divergent Questions	Questions in the Classroom: (In) Effective in the Development of MC	Teaching for MS	
What factors are likely to limit the promotion of metacognition/metacognitive skills in higher education in Saudi Arabia (KSA)? The students' lack of motivation. She does not have the desire. This matter needs a personal motivation, so she learns it. If she does not have the desire it will be difficult for you to create this motivation, because this related to goals. If she does not set goals for herself how you could help her to use the metacognition methods/strategies to achieve her goals. She does not care about this process at all.	The students' lack of motivation. She does not have the desire. This matter needs a personal motivation,	The student as a challenge	Potential challenges influencing the development of MC/MS	
Is there a sufficient emphasis on metacognition/metacognitive skills in the guidelines of the University/College/Department? **Answer:** I think a large part of your speech exists in the department "Kindergarten", but I have not been here for long to be able to know the whole contents. You might find it as an induction to the goals. I mean if you bring the department list and have a look, you might find it in the program of general goals: the college programme and the department programme.	The absence vs. presence of MC in the quid lines	The University as a challenge	Potential challenges influencing the development of MC/MS	
What changes would you suggest for the University to make to enhance students' metacognition?				

University teachers, look it is a general thing, but I see that there are no sticks or rods to walk on them when we deal with the learning/educational process. This kills any new thought; this is the only point that I see. I see that routine and systems are too much, system that you cannot deviate from whether right or left. This kill creativity and any attempts to thoughts similar to the research idea "Metacognition". Of course, having a certain system and commitment to it is a good thing. But if the system reaches to details, this will not allow teacher/lecturer to behave whether right or left.	I see that routine and systems are too much, system that you cannot deviate from whether right or left	The University as a challenge	Potential challenges influencing the development of MC/MS	
Is metacognition something that should be taken seriously by the Ministry of Education in KSA? Why? Ah/yes, very much, I said that even teachers need it. Thus they need to be trained on it. Also, I will say to you the University students are patterns, I mean academic level I think this is a very important for the top students or above average. I mean the student who has the motivation to learn is above average and more. I think this will be highly beneficial for them because she is familiar with it and has an awareness of its importance. Thus, she will accept it because she really needs it. The student who is indeed below the average will not feel its value because she unaware that she does not care about learning the process and she will accept anything, even, few things. Also, I think it is very important for the teacher, not the students only.	they need to be trained on it. academic level	University/ College/ Department as the Base to Develop Metacognition The students as a challenge	Incorporating MC into Higher Education in KSA Potential challenges influencing the development of MC/MS	

An Example of the Analysis of a Student's interview
Special Education Department

> Metacognition: MC, Metacognitive Skills: MS , Planning Skill PS , Monitoring Skill: MSs ,
> Evaluating skill: ES, Metacognitive Knowledge Task: MKT

Interview	Code	Categories	Theme	Description
Section One: Demographic Information **Would you please introduce yourself?** **Name:** Rawan **Major:** Special Needs; Hearing Disability **Level:** Fourth, second year				
Section Two: assignment and the teaching process in the lecture room **What are the type of learning activities and assignments that are normally assigned to you?** Exhibitions; we might participate in an exhibition. For example, we may design a poster that serves the Special Needs department. These activities make up part of the course score. I mean the lecturer may allocate two or three grades for it. But some courses ask us to do something of this type, not all.				
Could you give me some examples of when you were asked by your lecturers to plan your work? In Curriculum Design and Development course, we did a plan as a group work. I do not remember its details because the time was too short/limited, and we submitted it a while ago so I do not remember the details. The topic was "How to preserve the environment and take care of it". I remember we set the goals and made two posters, and it was a written plan. The elements of the plan were: the lesson topic, the	we did a plan as a group work. The plan elements	*The Presence and Promotion of the PS*	the Presence and promotion of MC/MS in the Lecture Rooms	Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking , with planning, monitoring, and evaluating being examples of these skills *Planning skill "involves the selection of appropriate strategies and*

goals, the activities that I am going to apply in the lesson, and feedback from the students to find out if they understood what I have presented. Also, how the students would benefit from it, would it be effective for them or not, did the students' perform well in it or not, did it benefit them or not, etc. I mean it will be more about the students. **What did you learn from this experience?** I gained experience. Later, I will be able to make a plan if I am required to do so because I know the basics.				*the allocation of resources that affect performance*
Could you give me examples of some strategies/instructions that you are given by your lecturers to monitor your performance/progress regarding your learning/thinking on the subject? Not always. For example, they might link between things, like in the course of Behavioral Disorders, the lecturer links it to the behaviors of kindergarten children. Another example, professor…. in Principles of Education course links the course to reality, for example, by playing a video clip linking it to what she is talking about. She links any situation, event, story or anything in circulation among us. The professor links and says this connection would help you to memorize the information. But a few of the professors, not all, would do this. For some of them, the most important thing is to explain the lecture and finish the lecture. I mean the rest is my responsibility, and I have to depend on myself.	Not always Links between modules &; link their subject content to reality	*The Presence and Promotion of the MSs* Metacognitive knowledge task	The presence and promotion of MC/MS in the Lecture Rooms The Presence and promotion of MKT	Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking , with planning, monitoring, and evaluating being examples of these skills *Monitoring skill "refers to one's on-line awareness of comprehension and task performance"* Metacognitive Knowledge Task information are required to approach the task
Could you give me some examples of when you were asked by your lecturers to evaluate your work? Yes, in the course of Computer Applications, the students were divided into groups, and each group had to present. Then, the lecturer required from the	Classmates' evaluation Evaluation criteria The lecturer had given us sheets including strengths and weaknesses,	*The Presence and Promotion of the ES* Evaluation process: open or guided	Presence and promotion of MC/MS in the lecture rooms	Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her

attending students to evaluate and mention the strengths and weaknesses of each presenting group. We needed to evaluate the presentation style, the presentation content, the student voice (high or low) and the student performance. The lecturer had given us sheets including strengths and weaknesses, and we write on them, and then we discuss it orally. I have experienced this (evaluation) more than once, and always the evaluation points are the same, such as the presentation content, do you benefit from it? the student's performance, etc. **How did you benefit from this experience?** Now I know how I am being evaluated, on what basis/criteria. Also, if I become in the lecturer's position, I would be able to evaluate the students according to certain points that are important for evaluation. Also, for myself, I got to learn about the things that I should so and about the things that I should avoid doing.	Also, if I become in the lecturer's position, I would be able to evaluate the students	For career	Students' Perspectives of the Benefits of MC	learning/thinking , with planning, monitoring, and evaluating being examples of these skills *Evaluation refers "to appraising the products and regulatory processes of one's learning"*
What type of questions do your lecturers usually ask in the classroom/exam? A lecturer may ask questions related to the previous lecture. Or a lecturer may give us a question at the beginning of the lecture to stimulate our thinking. For example, in the course of Introduction to Special Education, to attract our attention, the lecturer gives us a question that makes us think and try to find the answer for it. Most of the lecturers ask questions about the same lecture. I mean she asks to find out if we have background about the topic, and then she starts her explanation.**How would you describe them? Why?** I think the question that I hear for the first time is useful while the question that is related to the previous lecture is less important and won't stimulate me because I can review it later and I would know how to answer it.	Factual questions/helpless Thinking questions	Lecturers' questions in the lecture rooms	Teaching strategies and questions in the lecture rooms	Type of teaching methods used and questions asked in the lecture rooms.
How would you describe the teaching methods of			Teaching strategies	

the university lecturers? Why?	They often use lecturing	Traditional teaching methods	and questions in the lecture rooms	
They often use lecturing except for one or two courses that use further teaching strategies. For example, in the course of Teaching Strategies, the lecturer almost used a different strategy in each lecture; I mean she used the six hats and KWL. Her lecture was interesting, and there was no boredom. Also, in the Curriculum Design and Development course, there were some strategies but not as much as in the Teaching Strategies course; the professor was well-versed and the lectures were interesting and there was no boredom. But only these two courses were like that. The rest were given in a lecturing style. This includes the specialization courses. I think the lecturing style can be useful. However, this depends on the professor. I mean it depends on her explanation and how well-versed in the subject she is. Some of the lecturers just read the lecture and we underline until the lecture ends.	Lecturers' teaching style	The lecturers as a challenge	Potential limitations facing the development of MC/MS	Factors that likely to limit the promoting of Metacognition in Higher Education in KSA
Section Three: Students' learning processes				
This depends on what I want to study. For example, if I was studying a long topic and there is lots of information, I would identify the main points and summarize them. Or if I was unable to understand something, I would memorize it as it is. It almost depends on the course that I intend to study, and the study style would change between them. I try to diversify the methods I use but summarizing the important things and then studying them are the things that I do the most. I prefer to understand more than to memorize. I know my study style through my experience and the questions types in the mid and final exam. I mean I study based on the professor's style of asking questions in the exam.	I prefer to understand more than to memorize. based on the professor's style of asking questions in the exam.	Students' cognitive processes	Students' cognitive processes	Cognitive processes that the students relay on in their study.
Do you think that you have a sufficient level of planning skills as a university student?	I do not have enough planning skills.	The Student's Planning Skill	Students' Planning, Monitoring, and Evaluating Skills and	Students' capability to

Please explain why you have answered yes or no? I do not have enough planning skills. I may, for example, make a plan in my mind without writing it. I mean I do not always follow the plan or stick to it. I mean if I felt this is the study time I would study, and if I felt I am not able to continue studying, I would take a break even it is studying time. This will foil the plan that I have put down, and this means I could not stick to it. I know that planning is important but I cannot stick to it because I get bored quickly when studying. When it comes to studying, I believe I do not have this skill. But in life the situation is much different. I mean studying differs from thinking in everyday life. I mean I plan for my daily life. Teaching in the Special Needs major do not promote planning skills, because, as I said before, some lecturers just read. I mean I do not benefit from the lecture because it is the same as what is in the textbook. Thus, the teaching does not promote planning skills. This is what I noticed in our department. At the beginning of the semester, some lecturers give us the course plan, not all of them. I mean this only happens in some courses.	Teaching in the Special Needs major do not promote planning skills,	The Presence and Promotion of the PS	Factors Influencing them Presence and promotion of MC/MS in the lecture rooms	plan, monitor, and evaluate and factors that have influenced them i.e. teaching in the courses of specialization area, family, experience, continues practic..etc.
Do you think that you have a sufficient level of monitoring skills as a university student? Please explain why you have answered yes or no? Do you mean, I monitor what I plan? Yes, in the academic life in general but not when it comes to studying. For example, in my academic life at the University; I put a plan, for instance, getting a Bachelor degree with a certain average. Thus, I try to get good scores, and I monitor my scores. I also, try to link courses, for example, I tried to link Curriculum Design and Development course with the Teaching Strategies course that I will study in the next term and try to get a high score in it, and I will see my scores in the two courses… I mean I try to	Yes, in the academic life in general but not when it comes to studying	The Student's Monitoring Skill MSs a product of life situations	Students' planning, monitoring, and evaluating skills and factors influencing them	

link these things in my university life. I try to raise my scores and check my scores in similar courses to see how I improved them; I mean how I came to get a higher mark. I do not find this (monitoring skills) either, because the professor usually puts the presentation (PowerPoint) up on the screen and explains it. It is possible to have a simple activity during the lecture, but that's it. Also, some of the lecturers, not all of them, may give examples to clarify the information.				
Do you think that you have a sufficient level of evaluating skills as a university student? Please explain why you have answered yes or no? yes, I know to a great extent how to evaluate myself as well as others. I acquired this ability because, from the beginning of my academic life, they gave me how to evaluate something, for example, how I could evaluate if the content is useful or not. For example, as I mentioned in the course of Computer Applications, I learned the right and wrong practices, the content that could benefit or not benefit me, the student's performance/method and if it is correct or not, how the student presenter delivers information to students. Thus, I knew this thing (evaluating skills) from my academic life. Yes, this exists, for example, when they ask us to identify the strengths and weaknesses. However, I acquired this skill from the beginning and not from the department. I mean I obtained this skill in the first or second semester in the first academic year. For example, in Educational Management course the lecturer was asking us to evaluate orally. In the course of Computer Applications, the lecturer gave us a sheet and required us to write the strengths and weaknesses.	I know to a great extent how to evaluate myself as well as others Having practiced this skill several times acquired the ability to evaluate from the General Requirements lecturer gave us a sheet and required us to write the strengths and weaknesses.	The Student's Evaluating Skill ES a product of continuous practice ES a product of general requirements courses The Evaluation Process: Opened or Guided	Students' planning, monitoring, and evaluating skills and factors influencing them The presence and promotion of MC/MS in the	
Section Four: Metacognition **What do you know about**	honestly, I do not	Lack Understanding	Students' Definition	Metacognition'

metacognition? We studied about it in the course of "Learning and Thinking skills." But, honestly, I do not remember a lot about it. In this course, we studied some thinking strategies such as the six hats, KWL strategy "what I know, what I want to know, and what I learned". It was about thinking strategies and skills.	remember a lot about it.	of MC	of MC	refers to an individual's awareness or knowledge about his/her cognitive processes and his/her ability to regulate and control them in the learning process
From your perspective, what factors are likely to limit the promotion of metacognition in higher education in Saudi Arabia (KSA)? The students' interaction with me. I mean if they accept the idea they would help the lecturer concerning it. They also may not accept it and, therefore, not help the lecturer, and thus metacognition won't put into practice. I believe the students may not interact with the idea (metacognition) because it is a new thing, and we did not do it before. We are not use to do it; it is a new thing we got to learn in the department. Thus, I do not think that there would be a large acceptance of it. But if we are used to use it, then there would be interaction and enthusiasm.	Lack of acceptance of MC Unfamiliarity with MC	Potential Limitations Influencing the Development of MC/MS The students' as a challenge	Potential limitations facing the development of MC/MS	
What roles can your lecturers play to help you to be able to plan your learning/thinking? Or as a university lecturer, how would you promote the students' planning skill as a metacognitive skill? From the beginning, I mean from the first lectures, the lecturer has to teach the students how to plan; or for example, how to study the course at the weekend or when the student return home; how to plan to test herself in the course; how to make a plan for herself to study for exams; how to study; how to monitor her performance in the course during the semester; and at the end how to evaluate herself and performance if it was good or not. I believe it	Explicit instruction	Teaching for PS as a MS	Teaching of MS	Suggestions of some teaching approaches or strategies to teach MS

will be much better if the faculty member gives the students this skill in a direct/explicit way, teaches it to them and applies it with them. I mean by teaching and applying the students would learn more and see the benefit of this skill. I mean it would be much better if the faculty member took it and applied it with the students. Then, the students would accept it more.				
What roles can your lecturers play to help you to be able to monitor your learning/thinking? Or as a university lecturer, how would you promote the students' monitoring skill as a metacognitive skill? The lecturer should be a model for the student. I mean she should show me how things should be done. For example, she should be a role-model for me in the way she delivers her presentation, explains points and self-monitors herself.	Modeling	Teaching for MSs as a MS	Teaching of MS	
What roles can your lecturers play to help you to be able to evaluate your learning/thinking? Or as a university lecturer, how would you promote the students' evaluating skill as a metacognitive skill? Students'' evaluating skill would develop when a lecturer models the evaluation process. **Also,** this happens when the lecturer evaluates a student. Also, the criteria that the lecturer uses to evaluate the student's performance would be a reference point for students in their evaluation. Based on these criteria, the students would be able to evaluate other students and later the performance of any individual. I mean the lecturer should give the students the evaluation criteria and evaluates them based on these criteria, and then the students will know how to evaluate.	Modeling Explicit instructions	Teaching for ES as a MS	Teaching of MS	
From your point of view,				

what are the changes that your University/ College have to do to promote metacognition in higher education in KSA? The University should spread it by conducting courses/workshops, and exhibitions. It also should invite specialists in metacognition to give these courses/workshops and to teach the appropriate methods and areas for applying it. Also, the faculty members have to apply metacognition and its skills. I mean the University should try to activate it as much as possible. The courses/workshops should be for both: the student who receives and the faculty member who delivers because they are the most important concerned individuals. Also, it would be a good idea if metacognition is given as a separate course. We studied it in Learning and Thinking Skills, and it was just simple information on one page in the textbook. If it becomes a separate course, the student would absorb it more and apply it. I mean the student would study it, tries it, and then apply it. It is a good thing if it becomes a separate course and has a practical aspect besides the theoretical information. Practical application should be the way of teaching it. Also, concerning the courses/workshops, there should be more than one in the semester. They should raise the students awareness to it more.	Workshops for lecturers and students T he faculty members have to apply metacognition MC as a Separate course	The University/department role The lecturer's role The University/department role	Incorporating MC into Higher Education in KSA Incorporating MC into Higher Education in KSA Incorporating MC into Higher Education in KSA	Approaches and procedures that would help in incorporating MC in higher education in KSA
Do you have any further comments, thoughts, or suggestions regarding the development and promotion of metacognitive skills in Saudi Arabia? I believe metacognition is very important. it is important to know how to plan, monitor this plan, and evaluate myself and what I did. This would organize my thoughts and make me know what I have or not have to do, and what I accomplished or not accomplished; I mean it would organize everything for me. I may acquire metacognition in the	This would organize my thoughts invest in it later in anything and everything in life. Continuous benefits	Regulation of cognition	Students' Perspectives of the Benefits of MC	Metacognitive benefits or positive gains of the development of students' MC

university and invest in it later in anything and everything in life.				

An Example of the Analysis of Lecture Room Observation
Art Education Department

MS: Metacognitive Skills, P: Planning, M: Monitoring, E: Evaluating.
MQ: Metacognitive Questions, TL: Thinking Language: L: Lecturer, S: Student: SP, Student Presenter.

Lecture Name	**Nadia**	Room	**2094**
Department	Art education	Number of Students	**12**
Date	12Mar 2015	Lesson Title	**Artistic Pattern in children's Drawings**
Time	11-12:45	Course Title	Stages of Children Drawings
Teaching Strategies	Reciprocal Teaching		

Observation	Code	Categories	Theme	Description

SP: Today we will talk about styles in children's artistic expression
 	
SP: First, what influential scholars said, then the classification of children's drawings
SP: Children's drawings have been classified according to its features and expressions apparent in the drawings.
 	
SP: First: we have the scholar Vector Lonfield, who talked about the kinesthetic and visual classification. The kinesthetic and visual classification of Vector Lonfield: He put his theory about the kinesthetic and visual readiness and divided it to two parts:
   1. A visual style
 	
   2. A kinaesthetic style
 	
SP: explained both types that she mentioned above
 	
Lecturer Nadia asked; The visual style, like what? What does it mean? Victor divided the children painting into two, what is visual mean?
 	
A student: they use their vision
 	
Nadia: Excellent, they rely on their vision to see more. If a visual artist was here, what would they do?
 	
A student: they well see the outer shape
 	
Nadia: if I have, for example, an
	Reciprocal Teaching
	
	The visual style, like what? What does it mean?
	
	if I have, for example, an object and I want to draw this angle, would I draw a portrait?
		
		Clarifying question
		
		Application question
			Engagements of students' in learning and teaching
			
			Lecturer questions in the lecture room
			
			Lecturer questions in the lecture room
				Activities or approached used to engage students in the learning and teaching processes in the lecture room i.e. presentation, reciprocal teaching, micro-teaching etc.
				
				Type of questions that a lecturer asks in the lecture room
				
				Type of questions that a lecturer asks in the lecture room

object and I want to draw this angle, would I draw a portrait? A student: the face, or the oval shape Nadia: The face or the round shape. After this, what would I think of next? A student: mouth Nadia: correct, what else? A student: eyes Nadia: yes Nadia asked the SP to complete the presentation: Duaa continue your explanation				
SP: ...... Nadia: What type of artist would make his vision follow the reality as much as possible? A student: The Nature school/Realism Nadia: This means the closer a portrayal to reality the better the portrayal is (or there would be no similarity between the two, i.e. the opposite). Nadia: Any other schools? A student: Surrealism Nadia: Does surrealism relies on vision? It is opposite to anything that is visual. Another student: It is not. Nadia: contrary to what is an optical A student: the idealism school Nadia: Excellent A student: Abstractionism school. Nadia: Is abstractionism visual? The same student said; You said (the lecturer , it is opposite to the reality. Another student: Impressionism school Nadia: Possible	What type of artist would make his vision follow the reality as much as possible? This means the closer a portrayal to reality the better the portrayal is Does surrealism relies on vision? Did not encourage students to think and correct her answer	Factual question Explaining Factual question Lecturers approach of dealing with students' answer	Lecturer questions in the lecture room Teaching strategies in the lecture room Lecturer questions in the lecture room Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room Teaching methods that a lecturer applies in teaching in the lecture room. Type of questions that a lecturer asks in the lecture room How lecturers respond to students' wrong answer? Correct it, direct it to another students, encourage student to think about her answer etc.
SP: continued the presentation/teaching SP: The sensory style relies on the sense of touch. Nadia: Which school adopt this style?	Nadia: Which school adopt this style?	Factual question	Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room

A student: Experientialism school Nadia: Excellent Nadia: This means my feelings and reactions towards the thing I want to accomplish; its actual shape is not important.	Nadia: This means my feelings and reactions towards the thing I want to accomplish; its actual shape is not important.	Explaining	Teaching strategies in the lecture room	Teaching methods that a lecturer applies in teaching in the lecture room.
SP: continued the presentation/teaching SP: Vector's theory affected many countries including Egypt. SP: Secondly: Herbert classification of styles; Classification of styles went through phases 1. the first phase 12 classifications 2. The second phase 8 classifications 3. The third phase.... 4. The fourth phase…. Nadia explains: Herbert came after him and said that the previous theory (Vector's) is incomplete and did not include everything. So he came up with 12 classifications	Nadia explains:	Explaining	Teaching strategies in the lecture room	Teaching methods that a lecturer applies in teaching in the lecture room.
Nadia: The first classification Duaa talked about (here the lecturer is waiting for Duaa's response/explanation) (the first phase 12)	What does this mean?	Clarifying question	Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room
SP: The organic style is different in that it registers the relationship between what is seen and felt and the outside objects. (Reading from the slides) Nadia: What does this mean? What does it mean when I say draw an organic or geometric shape or object? Nadia spoke to the whole class: Be active and get involve with class, don't be lazy. Nadia: What do these drawings contain? They contain curves and slopes. He says the artist can express his feelings towards organic objects (like tree leaves) through curves.	Nadia: What do these drawings contain?	Factual question	Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room
SP: continued the presentation/teaching SP: The romantic style:…. It is clearer in women's drawings than men's. Nadia: What distinguishes women's drawings?	What distinguishes women's drawings?	Comparison question	Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room

A student: colours Nadia: The colours are compatible and have suitable gradient. Nadia: asked the SP to complete: please complete. SP: There is the impressionistic style: ……. Nadia: What does this mean? What is important is what distinguishes each style; details in the material. Nadia: asked the SP, complete the next SP: The Rhythmic style Nadia asked: Such as? Like what? SP: The same as we used to work in the principles of design course. SP, then, the presenter student the rest of this styles without explaining (she only mentioned their names).	What does this mean? Such as? Like what?	Clarifying question Clarifying question	Lecturer questions in the lecture room Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room Type of questions that a lecturer asks in the lecture room
SP: The second stage summarize them …. SP: the third stage…… Nadia: What is the meaning of an introvert person and an extrovert person? The students answered and showed different views. Nadia: They focus on themselves while the extroverts, they interact with the society. SP: The fourth phase here link between the expressive ways and the cognitive patterns SP: Why did scholars say that the eight–part classification is better than the two–part classification? A student: more accurate Nadia: well done, then, Nadia repeated the student's answer A student: more detailed Nadia: yes more detailed and its accurateness can be reliably evaluated A student: It better suits more age groups. Nadia: It included wider artistic expressions. Nadia: What's the difference between the two methods of classification? (She meant Vector and Herbert) A student: More varied Student: it has flexibility	What is the meaning of an introvert person and an extrovert person? What's the difference between the two methods of classification?	Clarifying question Comparison question	Lecturer questions in the lecture room Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room Type of questions that a lecturer asks in the lecture room

Nadia: The two-part classification sees things as black or white there's nothing in the middle. A student: It can include two classifications. SP: Like you said. Then she read from the slide that it is more inclusive of all the styles and patterns. • Herbert's classification/styles Nadia: He brought all the 12 styles and summarised them in eight styles. (Organic – integrity – rhythmic – compound – numerative - decorative – imaginative – rhythmic) (I copied them from the PowerPoint)				
SP: read the type and its definition. For example, organism… The truths that a child observes Nadia: What does the truth is that a child observes mean? A student : Attracts the child's attention. Nadia : Like what? What is the truth that I can teach the child and then he or she can translate in their drawings? L: Truthfulness for example. A student: The family. Nadia: Possible. Nadia: They observe the real things and then represent them and their drawings. SP: The compound shape… Nadia: compound shape like what? Which school is this? A student: Cubism SP: The numerative style….. Realism….. Nadia: Superficialism which means to draw reality without any shadows or colours; to draw reality superficially. SP: The decorative style represents 2d objects. Nadia: Like what? Who can give me an example of a style or a school? A student: The Islamic decorative style. Nadia: What is important is the colour, the depth, the width and	What does the truth is that a child observes mean? Like what? What is the truth that I can teach the child and then he or she can translate in their drawings? Like what? Who can give me an example of a style or a school? What is the meaning of this?	Clarifying question Clarifying question Clarifying question Clarifying question Clarifying question	Lecturer questions in the lecture room Lecturer questions in the lecture room Lecturer questions in the lecture room Lecturer questions in the lecture room Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room Type of questions that a lecturer asks in the lecture room Type of questions that a lecturer asks in the lecture room Type of questions that a lecturer asks in the lecture room Type of questions that a lecturer asks in the lecture room

		Explaining	Teaching strategies in the lecture room	Teaching methods that a lecturer applies in teaching in the lecture room.

the length.
 	
SP: The imaginative style: It includes two types the romantic and the literary.
 	
Nadia: What is the meaning of this? But as the two-part classification mean (the sensory and the organic)?
 	
Nadia: it relies on feelings in addition to the literary, which uses imagination in drawing characters, like a story and the author draws its characters or comes up with characters from their imagination and then draw them.
 	
Nadia: Which school?
 	
A student: The imaginative.
 	
SP: Herbert Reed connected his classifications to the psychological classifications. For example:Thinking (introvert and multiple) Affection… Feeling… Hunch… He also connected the expressive styles of the children's drawings to the cognitive styles.
    1-   the integrative style physiology
 	
    2-   the decorative style physiology
 	
Nadia: He also came up with another classification.
 	
Nadia: the psychological directions does not represent except the extreme cases in personalities (the teacher explained this point).
	it relies on feelings in addition to the literary,
	
	Which school?
		Factual question	Lecturer questions in the lecture room	Type of questions that a lecturer asks in the lecture room

Evaluation of the presentation: Nadia: What are the strengths of her presentation and what are the weaknesses? A student: The presentation is well ordered. A student: She was slow. Nadia: Is she supposed to be fast? (The lecturer did not comment any more on this note) Nadia: What are the weaknesses? A student: Her voice was low. Nadia: Maybe. What else? Nadia: Did she explain all the points? Let's be realistic. She skipped some points. Nadia: Is there anything else?	Classmates' evaluation Open evaluation (no specific criteria) Encouraging student to evaluate.	*The presence & promoting of ES*	The presence & promoting of MS in the lecture rooms	Metacognitive skills' defined as a set of regulatory activities or processes that a learner employs to regulate and control his/her learning/thinking, with planning, monitoring, and evaluating being examples of these skills *Evaluation refers "to appraising the products and regulatory processes of one's learning"*

(The students remained silent). T: This is constructive evaluation that she would benefit from. Nadia: (addressing Duaa): You did not explain every point. But the presentation was okay.	Lecturer final feedback			

Appendix P: Certificate of Ethical Research Approval

UNIVERSITY OF
EXETER

Graduate School of Education

Certificate of ethical research approval

MSc, PhD, EdD & DEdPsych theses

To activate this certificate you need to first sign it yourself, and then have it signed by your supervisor and finally by the Chair of the School's Ethics Committee.

For further information on ethical educational research access the guidelines on the BERA web site: http://www.bera.ac.uk/publications and view the School's Policy online.

READ THIS FORM CAREFULLY AND THEN COMPLETE IT ON YOUR COMPUTER (the form will expand to contain the text you enter). DO **NOT** COMPLETE BY HAND

Your name: Badiah Nasser Alnasib

Your student no: 610038002

Return address for this certificate: 11 Constantine House, New North Road, Exeter, EX4 4JH.

Degree/Programme of Study: PHD in Education

Project Supervisor(s): Dr. Andrew Richards and Dr. Carol Evans

Your email address: ba252@exeter.ac.uk and balnasib@hotmail.com

Tel: 07771210677

I hereby certify that I will abide by the details given overleaf and that I undertake in my thesis to respect the dignity and privacy of those participating in this research.

I confirm that if my research should change radically, I will complete a further form.

Signed: *Badiah* .... date: 22/7/2014

Chair of the School's Ethics Committee
updated: March 2013

Certificate of ethical research approval

TITLE OF YOUR PROJECT: An exploration of the presence and promotion of metacognitive skills in lecturers' teaching practices from lecturers and undergraduate students perspectives at the College of Education (COE) at a university in the Kingdom of Saudi Arabia (KSA).

---

1. Brief description of your research project:

Recently, one of the significant features of the new educational system in Saudi Arabia has been the call for restrictions on the quantity and quality of higher education. The new system is expected to meet local and international challenges, in order to achieve this, therefore, it is required that education priorities are reformulated. The development of students' higher orders thinking and lifelong skills should be on the top of the list. Making metacognition a part of everyday classroom discussion and practices should be the primary source for improving the quality of higher education outcomes. This study will seek to explore and understand both how and to what extent the promotion of metacognitive skills is present in lecturers' teaching practices at the COE in King Faisal University in KSA from the perspectives of both lecturers and undergraduate students. The study will adopt an interpretive approach with mixed methods. These involve observations, interviews, and a group interview. 12 lecturers will be observed in their classrooms to find out to what degree they promote students' metacognitive skills. They also will be interviewed in order to explore their understanding of metacognition and how it could be promoted in higher education in KSA. In addition, there will be a focus on what factors are likely to hinder the promotion of students' metacognitive skills. Furthermore, a group interview technique will be conducted with 12 undergraduate students to find out whether or not metacognitive skills are being promoted at the COE in King Faisal University, and how this promoting is being conducted.

2. Give details of the participants in this research (giving ages of any children and/or young people involved):

The study will be carried out in three departments; Kindergarten, Special Education and Artist Education, which awards a bachelor's degree at the College of Education in King Faisal University. It will require the participation of:

- 12 Lectures (Saudi and non-Saudi) who teach classes in the pre-service teacher education programmes.
- 12 Undergraduate students from varied levels.

Give details (with special reference to any children or those with special needs) regarding the ethical issues of:

3. informed consent: Where children in schools are involved this includes both headteachers and parents). Copy(ies) of your consent form(s) you will be using must accompany this document. a blank consent form can be downloaded from the GSE student access on-line documents: Each consent form MUST be personalised with your contact details.

Firstly, to carry out my study I will apply for consent from the Graduate School of Education at the University of Exeter. This consent will allow me to obtain permission from King Faisal University to conduct the study. A formal letter signed by both supervisors will be sent to the Dean of the College

of Education at King Faisal University in KSA. This letter will explain the study purposes, required sample, methods of data collection, time frame, and ethical procedures that will be taking into account during my research study. Prior to the actual study a presentation will be given separately to each group of participants (lecturers and students) to ensure that their participation is voluntary and that they understand the process that they will be engaged in, as well as the importance of their participation. Furthermore, a detailed explanation about the nature of the study, purposes, methods of data collection, how the data will be dealt and reported with and by whom, procedures of ensuring the respect of theirs anonymity and confidentiality, and their right to withdraw at any time of study will be given. Moreover, a signed informed consent form will be obtained from the participants (lecturers and undergraduate students) who will agree to participate in the study. Also, a permission letter from the Dean of the College of Education at King Faisal University will be required to conduct the study.

4. anonymity and confidentiality

In the research project, it is important to maintain confidentiality and anonymity of all of the participants at all stages of the research following BERA (2011) guidelines. King Faisal University's name will not be identified in any stage of the research except the chapter that involves the study context. All participants' names and information will be kept fully anonymous and confidential and will not be disclosed. The researcher will instead indicate them by using letters such as Lecturer A, B, C, etc and Student A, B, C, etc. Moreover, all data and information which will be collected from participants by observation, interview, and group interview will be kept in a safe and secure place and will be destroyed later after finishing the study or after the process of data collection, if participants have requested that. The observational schedules, hard copies of interview transcripts and tape-records will be stored in a locked filing cabinet. Data collected by digital records will be downloaded from recording devices at the earliest possible opportunity and will be stored on a password-protected laptop. They will then be deleted from the recording devices. Also, they will be deleted at a later point from the laptop when they are no longer needed.

5. Give details of the methods to be used for data collection and analysis and how you would ensure they do not cause any harm, detriment or unreasonable stress:

Observation: 12 lecturers from the aforementioned departments in the College of Education will be observed in their classroom to find out to what extent the promotion of students' metacognitive skills is present in their teaching practices. After obtaining lecturers' permission each lecturer will be observed twice. The researcher will seek to obtain assistant observers, either from the lecturers' participants or other staff members in King Faisal University (optional).

Interview: 12 lecturers from the aforementioned departments in the College of Education will be interviewed to identify their understanding of metacognition, in addition to how it could be promoted in higher education in KSA, and what factors are likely to hinder the promotion of students' metacognitive skills. Each lecturer will be individually interviewed twice. Each interview will last for about 30 minutes, and a semi-structured interview type will be applied. As lecturers are Arabic native speakers the interview will be conducted in Arabic.

Group interview: 12 undergraduate students from the aforementioned departments will be interviewed as a group in two sessions. Each session will last about 45 minutes. Lecturers' participants will choose the students. As students are Arabic native speakers, the interview will be conducted in Arabic.

Documents: A number of related documents will be collected and used such as the King Faisal University guideline and some courses handbooks. The purpose of this will be to obtain a comprehensive understanding and vision of the issue under investigation.

Data Analysis:
Quantitative data: Data that will be collected through a structured observation schedule will be quantitatively analysed and presented in the form of percentages and frequency distributions. However, it will be qualitatively judged, discussed and interpreted in terms of whether or not, metacognitive skills are present and being promoted in classroom sessions, as well as how this promoting is being done.

Qualitative data: Data collected via one-on-one interviews, group interview will be transcribed and coded (inductive and deductive). Following this, it will be analysed, discussed, interpreted and related more specifically both to the research questions and the context of the study and literature.

6. **Give details of any other ethical issues which may arise from this project - e.g. secure storage of videos/recorded interviews/photos/completed questionnaires, or**

   All data and information, which will be collected from participants through observations, interviews, and group interviews, will be kept in a safe and secure place as mentioned above. After data analysis and finishing the research study, hard copies of transcripts and copies of structured observation schedules will be destroyed. Moreover, audio recording (tape and digital) will be deleted from devices and computers as well.

7. **special arrangements made for participants with special needs etc.**

   Not applicable.

8. **Give details of any exceptional factors, which may raise ethical issues (e.g. potential political or ideological conflicts which may pose danger or harm to participants):**

   The focus of the study is on exploring the presence and promotion of students' metacognitive skills in lecturers' teaching practices. Therefore, the researcher will explain that judgment, criticism, and evaluation are not part of her goals or the study purposes. The lecturers will be given the opportunity to view the structured observation schedule (Arabic version) prior to the observation. Also, they will be asked to take a part as a non-participating observer in their colleges' classrooms (optional). Moreover, data, which will be collected from lecturers' participants, will not be presented to the Head of the selected departments or the Dean of the College of Education. Regarding undergraduate students the researcher will inform them that data collected from them will not be disclosed to their lecturers and their participation will not affect their grades in any way.

---

*This form should now be printed out, signed by you on the first page and sent to your supervisor to sign. Your supervisor will forward this document to the School's **Research Support Office** for the Chair of the School's Ethics Committee to countersign. A unique approval reference will be added and this certificate will be returned to you to be included at the back of your dissertation/thesis.*

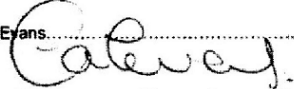*N.B. You should not start the fieldwork part of the project until you have the signature of your supervisor*

Chair of the School's Ethics Committee
updated: March 2013

This project has been approved for the period: 1 August 2014   until end of
December 2016:

By (above mentioned supervisor's signature): ...Carol Evans.............................date: 20 July
2014.....................

N.B. To Supervisor: Please ensure that ethical issues are addressed annually in your report and if any changes in the research occur a further form is completed.

GSE unique approval reference:..........D.14.15.05................

Signed:...date: 23/9/14.....
Chair of the School's Ethics Committee

Appendix Q: Formal Permission from the College of Education in Saudi Arabia

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
KING FAISAL UNIVERSITY
(037)

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك فيصل
(٠٣٧)

الموضوع: ....

إلى من يهمه الأمر

تحية طيبة وبعد، أفيد سعادتكم أن كلية التربية، جامعة الملك فيصل لا يوجد لديها مانع أن تقوم طالبة الدكتوراه بديعه ناصر النصيب والمحاضرة بقسم الاقتصاد المنزلي من إجراء دراستها البحثية التي تحمل عنوان

"اكتشاف مهارات التفكير ما وراء المعرفي في ممارسات التدريس ومدى تعزيز عضوات هيئة التدريس لها من وجهة نظر عضوات هيئة التدريس وطالبات الجامعة بكلية التربية في إحدى جامعات المملكة العربية السعودية".

على أعضاء هيئة التدريس والطالبات في الأقسام التالية: رياض الأطفال، التربية الخاصة، والتربية الفنية وذلك في الفصل الدراسي الثاني للعام الجامعي ١٤٣٥-١٤٣٦ هـ (٢٠١٥م) من ٨-٢-٢٠١٥ وإلى ٧-٥-٢٠١٥ م.

وتقبلوا جزيل الشكر والتقدير..

وكيل الدراسات العليا والبحث العلمي بكلية التربية

أ. د. أبراهيم الصباطي

الرقم: ....   التاريخ: ١١/ ١/ ١٤٣٦هـ   المرفقات: ....
www.kfu.edu.sa

Kingdom of Saudi Arabia P.O.Box 400 Al-Hassa - 31982 Tel: 035800000 Fax: 035816980   الهاتف: ٣١٩٨٢ - الأحساء - ٤٠٠ ص.ب المملكة العربية السعودية

Appendix R: Seeking Permission for Conducting the Research

in the COE & The Study Description

UNIVERSITY OF
EXETER

كلية التربية للعلوم الاجتماعية
والدراسات الدولية

St Luke's Campus- Heavitree Road

Exeter UK - EX1 2LU

+44(0)1392 724445   هاتف

+44(0)1392 724792   فاكس

الموقع الإلكتروني

ww.exeter.ac.uk/education

02/07/2014

إلى من يهمه الأمر

تود طالبة الدكتوراه الوارد اسمها أدناه إجراء دراسة بحثية في جامعة الملك فيصل

اسم الطالبة: بديعه بنت ناصر النصيب

عنوان الدراسة: اكتشاف مهارات التفكير ما وراء المعرفي في ممارسات التدريس ومدى تعزيز عضوات هيئة التدريس لها من
وجهة نظر عضوات هيئة التدريس وطالبات الجامعة بكلية التربية(COE) في إحدى جامعات المملكة العربية السعودية.

الغرض من جمع البيانات:

1. تحديد مدفهم عضوات هيئة التدريس وطالبات الجامعةلمهارات التفكير ما وراء المعرفي.
2. تحديد مدى تعزيز عضوات هيئة التدريس لمهارات التفكير ماوراءالمعرفي لدى الطالباتفيالفصول الدراسية.
3. اكتشاف ما إذا كان يتم تعزيز مهاراتالتفكير ما وراء المعرفي وكيفية ذلك بكلية التربية من وجهة نظر طالبات
الجامعة.

سبب اختيار جامعة الملك فيصل لجمع البيانات هو أن الجامعة قد أولت مؤخرًا اهتمامًا لتحسين جودة الممارسات التعليمية بين
صفوف أعضاء هيئة التدريس بها. بالإضافة إلى ذلك، هناك تركيز ملحوظ على جودة النتائج التعليمية.

ستتضمن أساليب جمع البيانات ما يلي:

1. الملاحظات داخل الفصل الدراسي (لعضوات هيئة التدريس)
2. المقابلات (مع عضوات هيئة التدريس)
3. المقابلات مع المجموعات (الطالبات الجامعيات)

المشاركون في الدراسة:

1. 12 عضوة من هيئة التدريس (سعودية وغير سعودية) اللاتي يدرسن في برامج إعداد المعلمات ما قبل الالتحاق بالتدريس.
2. 12 طالبة جامعية.

الإجراءات الأخلاقية:

سوف تتقدم الطالبة بطلب للحصول على إذن أخلاقي لإجراء الدراسة من جامعة إكستر. وسيتعين عليها التأكد من أن جميع المشاركات قد حصلن على نبذة موجزة حول مشروع البحث، وأن مشاركتهن اختيارية تمامًا. وفي حال اختيار عضوات هيئة التدريس والطالبات المشاركة، فإنه سيطلب منهن تعبئة استمارة موافقة، ويكون لهن الحق في الانسحاب من المشروع في أي وقت. و سوف لن يذكر اسم المؤسسة التعليمية وأسماء عضوات هيئة التدريس والطالبات. و سيتم تخزين جميع البيانات بشكل آمن وفقا للمبادئ التوجيهية لجمعية البحوث التربوية البريطانية (BERA،2011).

وسيتم تنفيذ الدراسة المذكورة في **الفصل الثاني من العام الدراسي 2015 (من 08 فبراير 2015 إلى 07 مايو 2015)** في ثلاثة أقسام هي: رياض الأطفال، التربية الخاصة والتربية الفنية في غضون 30 إلى 90 يومًا. سوف لن تتداخل عملية جمع البيانات مع الممارسات التعليمية لعضوات هيئة التدريس.

نُقدر لكم مساعدتكم في هذه الدراسة.

تفضلوا بقبول فائق الاحترام

(الدكتور كارول إيفانز)Dr Carol Evans   Dr Andrew Richards (الدكتور أندرو ريتشاردز)

Study Discription:

An exploration of the presence and promotion of metacognitive skills in lecturers teaching practices from lecturers and undergraduate students perspectives

A research plan of PHD study

Badiah Nasser Alnasib

1.1 Research problem

One of the significant features of the new educational system in Saudi Arabia has been the call for improving the quantity and quality of higher education. With the new system expected to meet local and international challenges, it is necessary that education priorities are reformulated. The development of students' higher-order thinking and lifelong skills must be recognised as being top of the academic agenda. Making metacognition a part of everyday classroom discussion and practices should be the primary methods of improving the quality of higher education. Metacognition, which refers "to an individual's knowledge, control and awareness of his/her learning processes" (Thomas, 2002), could be described as thinking about thinking or knowing about knowing. This learning should be supplemented by appropriate teaching- according to Gall et al (1990) "learning how to learn cannot be left to students. It must be taught"- in order to assist students in developing metacognitive skills (TEAL Center Fact Sheet, 2012, p. 33).

1.2 Significance of the study

1. At the level of policy and decision-making in the university in which the study will take place, the study will draw attention to the importance of integrating metacognition thinking through the educational process, including within its goals, curriculum, pedagogies, and evaluation. Consequently, it may facilitate a formal discussion between policy and decision makers, with empirical evidence to support the argument.

2. At the level of the university lecturers, it may contribute to the improvement of their professional performance. It will raise their awareness of the concept of metacognition and the importance of equipping their students with it to address higher-order thinking and life skills.

3. At the level of research, it will serve as a platform for further research that could be conducted in the field of metacognition thinking.

4. It will add a different cultural dimension to the wider international research base in relation to the situation of higher education in the Arabic Gulf.

1.3 Research Questions

The study will seek to answer the following questions:

1. How is metacognition understood by lecturers at the College of Education (COE) at a university in KSA?

2. To what extent do the lecturers promote students' metacognitive skills during their class sessions?

A. What teaching strategies do the lecturers use to encourage students' metacognitive skills during their class sessions?

B. What teaching strategies are perceived by lecturers at the COE as the best for fostering students' metacognitive skills?

3. What are undergraduate students' perceptions of whether and how metacognitive skills are being promoted at the COE at a university in KSA?

4. What metacognitive skills are being developed from students' perspectives?

5. What are the impediments, if any, with respect to the promotion of metacognition thinking in a university setting from lecturers' and undergraduate students' perceptions?

6. How can metacognition thinking be incorporated and fostered in higher education in Saudi Arabia from lecturers and undergraduate students' perceptions?

1.4 Research design:
1.4.1 Theoretical framework:
Considering the study main objectives, which are to explore and understand the presence and promotion of metacognitive skills in lecturers' teaching practices from lecturers' and undergraduate students' perspectives, my study will inform through an interpretive approach, which is suitable for "the intention of understanding the world of human experience" (Cohen & Manion, 1994, p.36).

1.4.2 Research Methodology
Considering the explorative and interpretive nature of this study, there will be a need for an approach, which enables the researcher to study the phenomena under investigation in a suitable level of depth. Therefore, a case study methodology with multi methods will be utilized.

1.4.3 Research methods and instruments:
As the researcher intention is to understand a field through meanings, opinions and perspectives, qualitative information is necessary. This is to be obtained by applying the following methods, which are considered appropriate in collecting qualitative data and which are common in the case study approach (Thorne et al., 2004, Joubish et al., 2011)

1. **Observation**: A group of lecturers from three departments; Kindergarten, Special Education and Artist Education, will be observed in their classroom to explore to what extent the promotion of students' metacognitive skills is present in their teaching practices. After obtaining the lecturers' permission, each lecturer will be observed twice. The researcher will seek to obtain assistant observers, either from the lecturers' participants or from other staff members in King Faisal University.

2. **Interview:** The same group of lecturers will be interviewed to identify their understanding of metacognition, in addition to how it could be promoted in higher education in KSA, and what factors are likely to hinder the promotion of students' metacognitive skills. Each lecturer will be individually interviewed twice. The first interview will last for about 30 minutes, and the second interview will be about 15 minutes. A semi-structured interview type will be applied. As lecturers are Arabic native speakers, the interviews will be conducted in Arabic.

3. **Group interview:** A group of undergraduate students from the aforementioned departments will be interviewed as a group in two sessions. Each session will last about 45 minutes. The interviews will not interfere with the students' lectures. As students are Arabic native speakers, the interview will be conducted in Arabic.

4. **Documents:** A number of related documents will be collected and used, such as the King Faisal University Guidelines as well as and some course handbooks. The purpose of this will be to obtain a comprehensive understanding and vision of the issue under investigation.

1.5 The sample
The study will require the participation of:

- 12 Lecturers (Saudi and non-Saudi) who teach classes in the pre-service teacher education programs.
- 12 Undergraduate students from varied levels.

1.6 Ethical dimensions

In the research project, it is important to maintain confidentiality and anonymity of all of the participants at all stages of the research. The name of the institution (King Faisal University) and the names of all lecturers and students will not be identified in any stage of the research. Moreover, all data and information collected from participants will be kept in a safe and secure place and will be destroyed later after the completion of the study. The participants will be asked for their voluntary informed consent, and will be informed about their right to withdraw at any stage of the research, in addition to the other principles in the British Educational Research Association guidelines (BERA, 2011). The Dean of the College of Education and the participants will be provided with an information sheet, which will explain the study (purpose, methods of data collection, duration, ethical procedures, and the researcher information and contact details). Furthermore, a presentation will be given separately for each group of participants with respect to the study, allowing a space for further questions.

1. 7 Time of data collection:

The intended study will be carried out in in the second term of the academic year 2015 (from 08 Feb 2015 to 07 May 2015) between 30 to 90 days (Appendix 1).

1.8 Note:

1. The participants will be allowed to view the study instruments if they request.
2. The process of data collection will not interfere with the lecturers' teaching practices.
3. The study will be conducted in the aforementioned departments because those departments awards a bachelor's degree at the College of Education in King Faisal University (Female departments).
4. The reason for choosing King Faisal University for data gathering is that the university has recently taken an interest in improving the quality of teaching practices among its staff members. Plus, there is a notable emphasis on the quality of its educational outcomes.

Appendix (1): Data collection timescale

Second semester 25/01/2015- 04/06/2015

Week	Date	Task
1	08-12/Feb/2015	1. Obtaining lecturers' and participants names, schedules, contact details. 2. Presentation session (lecturers)
2	15-19/Feb/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
3	22-26/Feb/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
4	01-05/Mar/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
5	08-12/Mar/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
6	15-19/Mar/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
	19-29/Mar/2015	Mid-term holiday
7	30Mar-02Apr/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
8	05-09/Apr/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
9	12-16/Apr/2015	1. Conducting observations of 3 lecturers. 2. Interviewing 3 lecturers.
10	19-23/Apr/2015	1. Presentation session for students. 2. Conducting group interview for 12 students. 3. Conducting group interview for 12 students (the same group)
11	26-30/Apr/2015	Extra time for any missing observation or interviews sessions.
12	03-07/May/2015	Extra time for any missing observation or interviews sessions.

دراسة لاستكشاف مدى وجود تعزيز لمهارات التفكير ماوراء المعرفي من خلال الممارسات التدريسية لعضوات هيئة التدريس من وجهة نظرهن ووجهة نظر طالبات الجامعة في كلية التربية في احد الجامعات في المملكة العربية السعودية

خطة بحث الدكتوراة

الطالبة: بديعه ناصر النصيب

1.1 مشكلة الدراسة

إن الدعوة الى تطوير التعليم العالي في المملكة العربية السعودية كما و نوعا يعد احدى السمات الهامة للنظام التعليمي الجديد, والذي يهدف الى تزويد الطالب الجامعي بالمتطلبات اللازمة لمواجهة التحديات المحلية والدولية. من هذا المنطلق أصبح هناك ضرورة ملحة إلى إعادة صياغة أولويات العملية التعليمية بحيث يأتي تطوير مهارات التفكير العليا والمهارات الحياتية للطالب على رأس قائمة الأولويات. تعد مهارات التفكير ماوراء المعرفي أحد الاساليب الاساسية لتحسين جودة التعليم العالي، حيث أصبح هناك تركيز ملحوظ عليها في السياق الجامعي في معظم الدول.

يشير التفكير ماوراء المعرفي إلى"وعي الفرد و معرفته بالعمليات التعليمية الخاصة به و قدرته على تنظيمها والتحكم بها" (توماس,2000) بغية الوصول إلى الأهداف المنشودة. و بعبارة أخرى هذا النوع من التفكير يسعى إلى تعليم الفرد كيف يتعلم. على أن تحقيق هنا الهدف يتطلب جعل التفكير ماوراء المعرفي جزء من الممارسات اليومية والتدريسية في الفصول الدراسية، حيث أن "تعلم الفرد كيفية التعلم لايمكن أن يترك للطلاب، بل يجب أن يدرس"(غال واخرون،1990) وذلك من أجل مساعدة الطلاب على تطوير مهارات التفكير ماوراء المعرفي.

1.2 أهمية الدراسة

ترجع أهميتها الى أنها قد تلفت انتباه واضعي الخطط و صناع القرار في الجامعة المعنية بالدراسة إلى أهمية دمج مهارات التفكير ماوراء المعرفي في جميع محاور العملية التعليمية بما يشمل: الأهداف، المناهج، استراجيات التدريس، والتقويم و غيرها. أضافة إلى أنها تقدم أدلة تجريبية تسهم بتوفير مساحة للحوار والنقاش بين واضعي الخطط والسياسات و صناع القرار.

أيضا تساهم في تطوير الاداء المهني لأعضاء هيئة التدريس في الجامعة، حيث تزيد وعيهم بمفهوم التفكير ماوراء المعرفي وأهم مهاراته وأهمية تزويد طلابهم به لإكسابهم مهارات التفكير العليا والمهارات الحياتية. هذه الدراسة بادرة لإجراء مزيد من البحوث في مجال التفكير ماوراء المعرفي للمهتمين.

1.3 أسئلة الدراسة

تسعى الدراسة الحالية للإجابة على الأسئلة التالية:

1. ماهو مفهوم التفكير ماوراء المعرفي لدى عينة من عضوات هيئة التدريس في كلية التربية بأحد الجامعات بالمملكة العربية السعودية؟
2. إلى أي مدى يتم تعزيز مهارات التفكير ماوراء المعرفي من خلال الممارسات التدريسية لعضوات هيئة التدريس؟

2.1 ماهي استراتيجيات التدريس التي تستخدمها عضوات هيئة التدريس لتعزيز مهارات التفكير ماوراء المعرفي للطالبات في الفصول الدراسية؟

2.2 ماهي استراتيجيات التدريس الأكثر فعالية في تعزيز مهارات التفكير ماوراء المعرفي للطالبات من وجهة نظر عضوات هيئة التدريس؟

3. ماهي تصورات عينة من طالبات كلية التربية حول اذا ما كان يتم تعزيز مهارات التفكير ماوراء المعرفي من قبل عضوات هيئة التدريس، و عن الكيفية التي يتم بها ذلك؟

4. ماهي مهارات التفكير ماوراء المعرفي التي يتم تعزيزها من قبل عضوات هيئة التدريس من وجهة نظر الطالبات؟

5. ماهي العقبات/المحددات (إن وجدت) التي تحد من تعزيز مهارات التفكير ماوراء المعرفي للطالب الجامعي من وجهة نظر عضوات هيئة التدريس وطالبات الجامعة؟

6. كيف يمكن دمج و تعزيز مهارات التفكير ماوراء المعرفي في سياق التعليم العالي في المملكة العربية السعودية من وجهة نظر عضوات هيئة التدريس و طالبات الجامعة؟

1.4 تصميم الدراسة

1.4.1 الإطار النظري

أخذا بالإعتبار الأهداف الرئيسية للدراسة والتي تسعى إلى استكشاف و فهم مدى وجود تعزيز لمهارات التفكير ماوراء المعرفي للطالبات من خلال الممارسات التدريسية لعضوات هيئة التدريس و الكيفية التي يتم بها ذلك من وجهة نظر عضوات هيئة التدريس ووجهة نظر طالبات الجامعة، فإن الدراسة الحالية سوف تتبع الإتجاه التفسيري والذي يعتبر ملائما للدراسات التي تنطوي على "النية لفهم العالم من خلال الخبرات والتجارب الإنسانية" (كوهين و مانيون،1994،ص، 36).

1.4.2 منهج الدراسة

نظرا للطبيعة الاستكشافية والتفسيرية للدراسة، سوف يكون هناك حاجة لإتباع منهج يمكن الباحثة من دراسة الظاهرة قيد التحقيق على درجة مناسبة من العمق. بناء على ذلك سوف تستخدم الباحثة منهج دراسة الحالة مع توظيف أدوات متنوعة لجمع البيانات.

1.4.3 أدوات الدراسة

حيث أن هدف الباحثة فهم الموضوع قيد الدراسة من خلال المعاني ووجهات النظر التي سوف تقدمها المشاركات، فسوف تكون المعلومات النوعية هي المطلوبة. لذا تسعى الباحثة لتحقيق ذلك من خلال استخدام الأدوات التي تعتبر مناسبة لجمع البيانات النوعية، كما أنها شائع استخدامها مع منهج دراسة الحالة (ثورن واخرون،2004، جوبيش واخرون،2011) هي كالتالي:

1.4.3.1 الملاحظة

عينة من عضوات هيئة التدريس من الاقسام التالية (رياض الأطفال، والتربية الخاصة، والتربية الفنية) سوف يتم ملاحظتهن داخل الفصول الدراسية (بعد الحصول على تصريح منهن) لاستكشاف إلى أي مدى تسهم ممارساتهن التدريسية في تعزيز مهارات التفكير ماوراء المعرفي للطالبات. كل عضوة هيئة تدريس سوف يتم ملاحظتها مرتين. و الجدير بالذكر أن الباحثة سوف تستعين بملاحظة مساعدة للمشاركة في عملية الملاحظة سواء من عضوات هيئة التدريس المشاركات أو غيرهن من عضوات هيئة التدريس في الجامعة المعنية بالدراسة.

1.4.3.2 المقابلة

سوف يتم إجراء مقابلات مع عضوات هيئة التدريس المشاركات للتعرف على مفهومهن للتفكير ماوراء المعرفي، وماهي تصوراتهن عن إمكانية تعزيزه في التعليم العالي في المملكة العربية السعودية. اضافة الى استطلاع وجهة نظرهن حول العوامل التي قد تحد من تعزيز مهارات التفكير ماوراء المعرفي للطلاب في

السياق الجامعي. سيتم إجراء مقابلتين لكل عضوة هيئة تدريس بشكل فردي, تتطلب المقابلة الأولى 30 دقيقة تقريبا، أما المقابلة الثانية فسوف تستغرق حوالي 15 دقيقة. و سيتم إجراء المقابلات باللغة العربية.

1.4.3.3 مقابلة المجموعات

سوف يتم إجراء مقابلة جماعية في جلستين لعدد من طالبات الجامعة في الأقسام السابق ذكرها، تتطلب كل مقابلة 45 دقيقة تقريبا، بحيث لا تتعارض الجلستين مع جدول الطالبات الدراسي , وسوف تجرى المقابلات باللغة العربية.

1.4.3.4 تحليل المستندات

للحصول على فهم و رؤية شاملة للموضوع قيد الدراسة، سيتم جمع و تحليل مجموعة من الوثائق ذات الصلة.على سبيل المثال دليل جامعة الملك فيصل و بعض الخطط الدراسية للمقررات في التخصصات السابق ذكرها.

1.5 عينة الدراسة

سوف تتطلب الدراسة مشاركة أثنتاعشر عضوة هيئة التدريس (سعودية و غير سعودية) واللاتي يدرسن مقررات في برنامج إعداد المعلمات قبل الخدمة, و أثنتاعشر طالبة جامعية من مستويات مختلفة.

1.6 الإعتبارات الأخلاقية

يعد الحفاظ على سرية المشاركين خلال مراحل البحث من أهم الإجراءات البحثية. لذلك فإنه لن يتم الإشارة الى اسم المؤسسة التعليمية و أسماء المشاركات في البحث في أي مرحلة من مراحل الدراسة. إضافة الى ذلك سيتم حفظ كافة البيانات المتحصل عليها في مكان آمن و سيتم إتلافها بعد الإنتهاء من الدراسة. أيضا سوف يتم التأكيد على أهمية المشاركة الطوعية للمشاركات و سيتم اطلاعهن على كافة حقوقهن بما في ذلك حق الانسحاب من الدراسة في أي مرحلة من مراحل البحث و غير ذلك من المبادئ التوجيهية لجمعية البحوث التربوية البريطانية.

سيتم تزويد كل من عميد الكلية والمشاركات بالمعلومات المطلوبة عن الدراسة (غرض الدراسة، طرق جمع البيانات، مدة الدراسة، الإجراءات الأخلاقية، و بيانات الاتصال بالباحثة والمشرفين على الدراسة). إضافة الى ذلك ستقوم الباحثة بالاجتماع مع كل مجموعة من المشاركات على حدى لتقديم عرض توضيحي للدراسة والحصول على موافقة خطية بالمشاركة والإجابة على اسئلة المشاركات.

1.7 المدة الزمنية لجمع البيانات

سيتم تنفيذ الدراسة في الفصل الثاني للعام الدراسي 2015 في الفترة من 8 فبراير الى 7 مايو, و سوف تتطلب مابين 60 الى 90 يوما (ملحق رقم (1)).

1.8 ملاحظات

1. سيسمح للمشاركات بالإطلاع على ادوات الدراسة في حالة رغبتهن بذلك.
2. لن تتعارض عملية جمع البيانات مع الممارسات التدريسية لعضوات هيئة التدريس.
3. سيتم إجراء الدراسة في التخصصات التي تمنح درجة البكالريوس في كلية التربية في جامعة الملك فيصل (أقسام الطالبات).
4. سبب اختيار جامعة الملك فيصل كمجتمع للدراسة، هو أن الجامعة تولي اهتماما بتحسين و تطوير الأداء المهني لأعضاء هيئة التدريس، كما أن هناك تركيز ملحوظ على جودة المخرجات التعليمية بها.

ملحق رقم (1)

الخطة الزمنية لعملية جمع بيانات الدراسة

الفصل الثاني للعام الدراسي 2015

الإجراء	التاريخ	الأسبوع
الحصول على أسماء عضوات هيئة التدريس المشاركات وجداولهن الدراسية وعناوين التواصل معهن تقديم عرض مفصل للدراسة للعضوات المشاركات	08-12 /FEB /2015	1
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	15-19 / FEB /2015	2
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	22-26/ FEB /2015	3
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	01-05/MAR/2015	4
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	08-12/MAR/2015	5
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	15-19/MAR/2015	6
MID-TERM HOLIDAY		
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	30MAR- 02APR/2015	7
إجراء ملاحظات للفصول الدراسية ل 3 عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس	05-09/APR/2015	8
إجراء ملاحظات للفصول الدراسية ل 3	12-16/APR/2015	9

عضوات هيئة تدريس إجراء مقابلة مع 3 عضوات هيئة تدريس		
تقديم عرض مفصل للدراسة للطالبات المشاركات إجراء الجلسة الأولى من المقابلة الجماعية مع الطالبات إجراء الجلسة الثانية من المقابلة الجماعية مع الطالبات	19-23/APR/2015	10
وقت إضافي لإجراء أي ملاحظات أو مقابلات متطلبة	26-30/APR/2015	11
وقت إضافي لإجراء أي ملاحظات أو مقابلات متطلبة	03-07/MAY/2015	12

Appendix S: Vision, Mission and Goals of the College of Education

Vision   Leadership in the field of educational development in the region and the Kingdom. The preparation of professional educators at a high level of efficiency who have the theoretical knowledge and practical experience and skills in the use of modern educational technology and the achievement of the center of the field of educational planning and research.

Message   The college is to prepare teachers, counselors and administrators, who have the competence, experience and profession moral and seek to improve the situation of others through the process of learning and teaching in disciplines that fit the needs of the community and its educational institutions. It also contributes to the development of the educational process and solve educational problems and improve the educational environment by conducting scientific research in the field of education and provide programs for the preparation and development of teachers and leading educators.

Objectives   1 - Preparation and development of students educationally and scientifically within the framework of Islamic ethics to work in educational institutions and education in accordance with international standards in the field of teacher preparation to meet the requirements of institutions that seek accreditation for Quality Assurance in International Education. 2 - Conducting research and studies that are compatible with global standards in scientific research and that contribute to the development of the educational process and support. 3 - Preparation of outstanding scientific staff to pursue postgraduate studies. 4 - To provide programs that contribute to raising the professional level of workers in the field of education :teachers and specialists, educators and leaders. 5 - to establish relations of co-operation with educational institutions

and bodies of local and global. 6 - to contribute to society through the implementation of programs and educational activities.

Source: The College of Education website, June 10, 2017.