

THE EFFECTIVENESS OF THE SOCIAL
NETWORK IN HIGHER EDUCATION IN SAUDI
ARABIA: ACTION RESEARCH TO DEVELOP AN
ELEARNING CONCEPTUAL MODEL BASED ON
BLOG TOOLS

By: Mohammed Ibrahim A. AL-Hojailan (Alhgaulan)

*A doctoral thesis submitted to
De Montfort University
In partial fulfilment of the requirements for the
Degree of Doctor of Philosophy*

MAY 2013

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Author's signature



Date **10/09/2013**

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ABSTRACT

During the last two decades, there has been great interest in integrating computers and technology in higher education. Currently web tool services for learning have attracted researchers in the field of education technology to integrate eLearning within the learning environment. In particular, the Internet has become an increasingly important and novel feature of the modern learning environment.

Amongst the innovations, a certain tool has become extremely popular worldwide. It is known as web 2.0. It is a read/write web. Blogs (web logs) are one its fastest growing features. The researcher investigated the exciting prospect of developing an eLearning environment by utilizing and applying effective blogs. To date there has been little use of blogs as online tools in higher education, especially in Saudi Arabia. This study concerned the disclosure of more understanding of the use of web 2.0 applications in higher education in Saudi universities.

The first purpose of this study was to develop an eLearning model for web 2.0. Its second purpose was to examine learners' perceptions and attitudes toward web 2.0 applications, i.e. blog tools by exploring the relationship between learners' attitudes toward blog tool instructions and factors identified as potentially influencing these attitudes.

This research adopted an approach based on an interpretive philosophical paradigm accompanied by a qualitative methodology coupled with action research methods. Learning theories were considered as a theoretical framework. The learning theories considered was Behaviorism, Cognitive and Constructivism with Bloom's Taxonomy and Boud's Model. Data was collected qualitatively and analyzed thematically. Triangulation was conducted upon the outcomes of the questionnaires, interviews, observations and blog content analysis.

This research made four main contributions. First, it identified the factors that influenced learner acceptance for the use of blog tools in higher education. Second, it investigated the relationship between learners' attitudes and their acceptance of the utilization of blog tools within their learning environment. Third, it responded to calls from the literature review to investigate blog utilization by conducting an in-depth investigation that utilized qualitative methodology with action research. Lastly, it provided further insight and a better understanding of blog usage with respect to structured/ unstructured learning environments.

ACKNOWLEDGEMENTS

I would like to take this opportunity to thank my god “Allah” for his blessing and continuous support and for providing me with a wonderful family. They are always beside me and have encouraged me to reach in this stage. I would like to express my deep gratitude to my parents for their unstinting support and encouragement and to my brothers and sisters for their prayers and good wishes. In particular, my thanks goes to my wife who was always able to motivate me to continue when the going became difficult. She makes my life happy and wonderful. Also, I would like to express my deep gratitude to my uncle Dr. Tala for his limitless support and encouragements.

I must also express my sincere gratitude to my supervisor Professor Bernd Stahl for his teaching, guidance and inspiration, which made this thesis possible. In addition, my appreciation goes to Mr. Ralph Birkenhead for his important advice and support. Professor Simon Rogerson, Dr. Sara Wilford and, Dr. Ahmed Younis for their constrictive discussion and for their richness comment,

My thanks must also go my close friends here in UK and at home for their support and encouragement, especially in Hotdisck suite.

My deep appreciation and thanks goes to all those learners and friends who participated in this study and for allowing me to collect the data.

Finally, I wish to express my appreciation to King Saud University for their sponsorship and financial support during my research.

DECLARATION AND PUBLICATIONS

The researcher used some of the content from the following publications in this thesis.

Journal articles

Alhojailan, M. (2012a). The current use and effectiveness of Weblogs as e-learning tools in higher education. *International Proceedings of Economics Development & Research*, 27, pp.120–124.

Alhojailan, M. (2012d). Thematic Analysis: A Critical Review of its Process and Evaluation. *West East Journal of Social Science 1(1)*, pp. 8–21.

Conference articles

Alhojailan, M. (2012b). An Evaluation of Thematic Analysis (TA): its Features, Concepts, Processes and Validation. An inductive & detective approached in interpretive research. SIC 2012. London. Brunel University.

Alhojailan, M. (2012c). Identification of learners' attitudes regarding the implementation of read/write web, blog tools: a case study in higher education. In 7th Disco2012 conference reader: New media and education. Prague: Centre for Higher Education Studies, pp. 58–73.

Alhojailan, M., McRoob, S. and Hall, R. (2011). Blog techniques in Classroom: way of using blogs in learning environments. SICO2011. Warick, Warwick University

DEDICATION

This thesis dedicated to:

My parents, my father Ibrahim and My mother Zainab, May Allah

Be generous and merciful with him all times.

My wife Eman, thank you for your limitless assistance, my son

AbduAlaziz for his lovely Interrupting!

All My Brothers and Sisters: Dr.Wail, AbduAlRahman, AbduluAziz,
Ahmed, Faisal, Maha, Bedor, and Sarah, May Allah bless you all with your
children and makes every things easy to you to get success.

USED ACRONYMS / ABBREVIATIONS

QDA	Qualitative data analysis
GT	Grounded theory
IT	Information Technology
AR	Action research
SA	Saudi Arabia
NCEDL	National Centre for eLearning and distance learning
MoHE	Ministry of Higher Education in Saudi Arabia
MoE	Ministry of Education in Saudi Arabia
NCITP	The National Communication and Information Technology Plan in Saudi Arabia
CDSI	Central Department of Statistics and Information in Saudi Arabia
SEU	Saudi Electronic University
UNEVOC	Global Network for Technical and Vocational Education and Training,
ECPSE	eLearning Centre in Port Said in Egypt
KSU	King Saud University
LMS	Learning Managements Systems
WebCT	Learning systems that owned by Blackboard. Provides a websites and online services for universities to provides an online to upload courses materials, forums

KEY TERMS

eLearning	<i>“E-learning refers to use of Internet technologies to deliver a board array of solutions that enhance knowledge and performance.”</i> (Rosenberg, 2001, p 28) eLearning could be introduced <i>asynchronously</i> and <i>synchronously</i> in education.
Online learning	‘Online learning’, is mainly used when research adapts web services (Kear et al. 2012) to design learning activities through the use of website tools.
Blended learning	‘Blended Learning’ is frequently used when researchers attempt to combine activities and teaching styles (Reem Alebaikan and Troudi 2010; Yushau 2006).
Web 2.0 or read/write web	Web 2.0 is a new concept that makes it a platform for sharing information for users to design and provide content via Internet. The website allows users to add and post comments and interact in different ways via multimedia, text and audio, such as, Blogge.com, twitter.com and wikipedia.org (Solomon and Schrum 2007).
Blog	The term weblog is composed of two words, i.e. ‘web’ and ‘log’ joined to form the name ‘weblog’. It is often referred to simply as a ‘blog’. It is widely used by journals and popular media , in political campaigns, by news organizations, businesses and in classrooms (Nardi, et al. 2004).
Action research (AR)	<i>“Action research is a method that means different things to different people.”</i> (Zuber-Skerritt 1992) Action research is a systematic process that involves four main steps: plan, act, observe and reflect. It could be used in many different education situations, as it provides structure and a continuous approach to improve features using novel processes of investigation and is a cyclic process that validates social issues (Enid Mumford 2001).
Behaviourism	This theory is concerned with giving instruction about by what means by act (i.e. behaviour respond). It is commonly linked to dedicated pedagogical beliefs (Child 2004).
Cognitivism	Is a theoretical study that attempts to understand the processes that are involved in how we understand, think, learn and remember knowledge (Au 1997).
Constructivism	This theory involves, <i>“The principle that knowledge is created from experience. One key characteristic that distinguishes constructivism from other learning theories, such as, behaviourism and cognitivism is the nature of reality. The constructivism learning paradigm emphasizes that there is no single or objective reality “out there,” which the instructor must transmit to the learner.”</i> (Almala 2006, p.34)
Thematic analysis	Thematic analysis is a type of qualitative analysis. It is used to categorize and present themes (patterns) that relate to raw data. It is able to illustrate data in detail and deal with diverse subjects through interpretation (Boyatzis 1998). Data that has been gathered both inductively and deductively can be analysed by this method.

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1 INTRODUCTION AND RESEARCH BACKGROUND

The incorporation of web based systems in higher education learning environments is considered beneficial because they facilitate teaching and learning (Mylonas et al. 2004; Mason and Rennie 2008). Many educators agree that utilizing eLearning as an asynchronous, i.e. using online facilities outside and inside the classroom improves the quality of education by, for example, integrating web services and using internet applications, tools, learning management systems (LMS) e.g. blackboards and online forums. Further, it is anticipated that electronic systems such as these will enhance the learning environment by raising the quality and efficiency of teaching for their learners (Garrison and Anderson 2003; Blomeyer 2001; Alebaikan 2010; Alhojailan et al. 2011; Solomon and Schrum 2007; Bennett et al. 2012; Chit Hwa 2006).

In addition, eLearning via web technology has the advantage of enabling learners and academics to improve their skills and communicate with each other (Solomon and Schrum 2007; Mason and Rennie 2008). This presents a chance to innovate the learning system (Weller et al. 2005). This significant evolution in the field of information technology, particularly in higher education, has been recognised by a number of observers (Top 2012). In particular, web 2.0, i.e. read/write web technology has become an attractive application for many universities and researchers (Rogers et al. 2007; Casey and Evans 2011; Chang 2008; Ajjan and Hartshorne 2008; Goh 2010; Alhojailan 2012b). It has captured the attention of a wide spectrum of institutions and practitioners that include universities, researchers, organizations and businesses (Schiano et al. 2004).

It has been claimed that web 2.0 supports and promotes innovative learning techniques and methods, which enable the construction of information (Du and Wagner 2005). Moreover, learners are able to contribute and analyse information via their

communications and interactions (Solomon and Schrum 2007; Meyer 2010). Different styles of learning are supported by community, knowledge and learner-centred online activities (Kang et al. 2011).

Despite a paucity of research in this area in some regions, it appears that web 2.0 via blogs could be a powerful new internet phenomenon in education (see chapter 3, in sections 3.2, 3.3, 3.3.2 and,3.3.4). It has the potential to become an effective eLearning application in higher education (Luján-Mora and De Juana-Espinosa 2007; Lin et al. 2006; Kim 2008; Garrison and Anderson 2003; Solomon and Schrum 2007). In addition, the literature review shows that researchers need to be encouraged to conduct further investigations into the utility of web 2.0 via blogs (Divitini et al. 2005a; Kim 2008; Luján-Mora and de Juana-Espinosa 2007; Sim and Hew 2010). Furthermore, there is a need to conduct practitioner research to understand the best pragmatic way to implement web 2.0 with respect to educational theories. Lack of experience and practice in utilising this tool needs to be investigated by in-depth analysis (Garrison and Anderson 2003; Clark and Mayer 2011; Morrison 2003). Educators, therefore, have to ensure that web 2.0 is implemented effectively to maximise the potential benefits and avoid possible short-comings. The current researcher was encouraged to conduct an investigation in a country other than the USA or Europe (Sim and Hew 2010). This intention agreed with the results of the literature review that indicated the importance of researching this topic in the Saudi Arabian context (Al-Othman 2009; Al-Shehri 2010; Reem Alebaikan and Troudi 2010). The next section discusses the justification for this choice.

1.1 RESEARCH MOTIVATION AND CONTRIBUTION

The justification for this research is based upon the following factors.

- 1- Sim and Hew (2010) found, as of 30th January 2009, only 24 empirical papers

out of 1,127 publications that investigated blogs. They concluded that most of the claims and made suggestions about the advantageous use of web 2.0 via blogs in education were infrequently empirically based and only a few of these pertained to higher education. Thus, there is significant lack of reliable research in the literature that determines the effectiveness of web 2.0's blogs in the tertiary sector. This conclusion is supported by Downes (2005). Furthermore, the current researcher agrees with Luján-Mora and De Juana-Espinosa (2007). They said, "*there is not much published material on the subject of weblogs in education*" (p.2). Nevertheless, a small body of research that is analyzed later in the thesis strongly agrees and proves the lack of research in this field (see chapter 3, the first point in section 3.3.4 and, the summary in Appendix J). Thus, inquiring into the benefits of using blog tools within learning environments is an appropriate area to research. The diverse use of web 2.0 via blogs for eLearning practised in higher institutions must be discussed first in order to identify existing common values and practises before change is introduced. Understanding the process of students' academic development and in particular their perceptions and attitudes is the key to making change productive. It is also important to understand *how* technology works and whether it is effective in learning environments (Clark and Mayer 2011; J. W. S. Sim and Hew 2010). This research attempts to involve itself in-depth with these concepts.

- 2- Understanding the perception and characteristics of eLearning with respect to Internet applications, e.g. web 2.0 via blogs is very limited. Learners' attitudes, skills and knowledge are yet to be fully investigated. The literature review shows that most research in this area is narrowly focused upon one tool and perspective. For example, learners' reflections of blog implementation in the

study by Hall and Davison (2007), significant impact upon learners occurred when they applied specific learning skills in Wu (2005) study. Furthermore, improvements in learners' outcomes took place when they were encouraged to read the blog content of others in Ellison and Wu (2008) (for more information see chapter 3, section 3.3.3 and Appendix J with the studies analysed in Sim and Hew (2010) study. In addition, this research attempts to combine three concepts for investigation, i.e. learners' skills, attitudes and knowledge to increase the success of eLearning implementation.

- 3- Based on number one above, the literature review showed that the analysis of previous studies was based on non-theoretical backgrounds. More particularly, new technological implementation has often appeared appropriate with respect to the social perspective taking into consideration the underpinning of the impact within the perspectives of different education theories. This factor is neglected by these studies (Kang et al. 2011). Researchers need to consider learning theories. They support and inform researchers to make the best technological choices for innovation. The accurate recruitment of these technologies makes for solutions within a systematic framework, e.g. the use of Bloom's Taxonomy to determine learners' levels of critical thinking (for more information see chapter 4, section 4.4.1). This research constructed and utilized a theoretical model that relied upon learning theories and models relevant to this research, including the important points abstracted from previous studies. Chapter 3, sections 3.3.4 and chapter 4, section 4.7 describe the original contribution of the existing learning theories and models to this research.
- 4- The literature review showed there was little research into the use of web 2.0 via blogs for learning. In these pieces of research methodologies were applied to blogs as phenomena within learning environments, which came from different

perspectives, such as, case study and experimental design (see chapter 3, section 3.3.3 and, 3.3.4 and Appendix J) (Sim and Hew 2010). Only one of the studies that were reviewed considered Action Research (AR). Action Research is strongly recommended when the understanding concerns ‘needs’, especially with phenomena that mediate social perspectives, i.e. accounting for the complex variables that surround and influence the application of technology in learning environments (Baskerville 2001). Action Research has proved suitable to investigate the development and improvement of concepts that derive from practice and experience (Jean McNiff & Jack Whitehead 2006, p44-68 and Costello 2003, p15-16). In this research, Action Research proved valuable to the researcher to investigate and develop an understanding of learners’ perceptions and knowledge. In addition, Action Research, coupled with multi-instruments could be integrated to discover ‘*how*’ it works. The multi-instruments used in this research included, observation, questionnaires and interviews. Using this methodology, the researcher was able to inquire into the effect of eLearning upon the learning process and so determine its effectiveness (Clark and Mayer 2011, pp.51–54; Zuber-Skerritt 1992; Spector 2008). More information upon this point can be found in chapter 5, section 5.6. Furthermore, this research gathers information through multi-references and sources that plan Action Research methodologies. These offer the researcher greater opportunities to become involved in the design and execution of learning activities and the application of intervention strategies (see more information in chapter 4 section 4.7).

- 5- Higher education institutions in Saudi Arabia have come to appreciate the importance of integrating technology with instruction. The very small amount of research into this field, however, shows that few institutions have the

knowledge to use web 2.0 services via blogs effectively in learning environments (see chapter 2 in section 2.3.1.3) and the research literature does little to improve this paucity. Al-Othman (2009) analyzed more than sixty PhD thesis and Master dissertations in the field of educational technology in Saudi Arabia, which covered research into virtual learning, the use of laptop computers, of synchronous and asynchronous Internet services, eLearning tools and approaches. She claimed that the quantity of research in education with regard to the use of Internet applications compared to other subjects was very low, particularly with respect to the implementation of web 2.0 via blogs in higher education (more information in chapter 2 section 2.4.5). This finding significantly backs up the suggestion made by Sim and Hew (2010). These two workers found a significant gap in research that examines the influence of the web 2.0 blogs outside North America and Europe. They said,

“There is a continual need to study participants in other countries in order to better understand how different geographical and socio-cultural contexts might influence the use of blogs differently.”(p.158)

Putting the above into action, the diversity of technology planning and the eLearning that is practiced in learning institutions must be discussed and some common values and practices should be established.

Historically, universities in Saudi Arabia have looked at different ways to implement effectively eLearning for teaching and to establish and measure best practice. Furthermore, Saudi Arabian universities take internet services as the fundamental vehicle for creating an eLearning community and as a medium for instruction, which supports a variety of skills (see chapter 2, section 2.3.1.2). Furthermore, a marked gap has been noticed between what is currently perceived as a good integration of computers and what actually occurs in practice (Sim and Hew

2010; Mason and Rennie 2008, p.142; Solomon and Schrum 2007) (see points 3 and 4 above). Further, it is important to note that in professional development how to use internet services and integrate web 2.0 via blogs as an instructional tool can be a barrier to integration (Clark and Mayer 2011, p.52). Furthermore, learners perceive their own internet skills to be rudimentary in terms of how to adapt internet facilities for the benefit of their learning. Currently Saudi Arabia, as a developing country, does not have a critical community of professionals or educators with adequate skills to effectively utilize these tools that affect learner's perceptions and attitudes and more importantly to facilitate the learning process (see chapter 2 in sections 2.3.1 and, 2.3.1.1). These needs are addressed by this research.

Overall, previous discussions show that there is a significant lack of knowledge and empirical studies based on theoretical designed. Very rarely such studies been done in Saudi Arabia. This research is required for that reason.

1.2 RESEARCH AIMS AND QUESTIONS

This research seeks to investigate the main issues that influence the implementation of web 2.0 via blog tools within learning environments in higher education. For the purposes of this study, the researcher will conduct an in-depth investigation into adaptations of an eLearning environment using web 2.0 via blogs. This environment will be transposed to the classroom, where the use of blog tools will be subject to examination. The findings are expected to inform educators. It is hoped that practitioners gain insights that are more thoughtful and are able to develop a deeper understanding of the issues that are involved by the use of blog tools. Thus, this research aims:

- 1) To gain an in-depth understanding of the present practice of eLearning,

particularly with respect to web 2.0 via the implementation of blog tools, in order to develop an authoritative model that resolves the issues that surround their implementation.

- 2) To identify the influence of blog tools upon learning environments with respect to the attitudes of learners in Saudi Arabian universities.
- 3) To explore the relationship between learners' attitudes toward blog tools and instruction together with other factors that may influence them.

1.3 RESEARCH QUESTIONS

The research raised the following questions, which the inquiry attempts to answer.

1. What is the potential utilized by eLearning via web 2.0 via blog tools in learning environments in higher education?
2. Can web 2.0 via blog tools be developed and utilized effectively to cater for the requirements of Saudi Arabian universities?
3. What are the learners' attitudes toward utilizing web 2.0 via blogs within their learning environment?
4. Which theoretical model and factors consistent are appropriate for web 2.0?

1.4 THESIS STRUCTURE

This thesis been is composed of nine chapters.

Chapter One: Introduction and Research Background: includes an introduction to the research together with its background, motivation, aims and objectives and structure.

The literature review is divided into three chapters i.e. chapters 2, 3 and 4, to provide a compressive picture of the research subject and relevant topics.

Chapter Two: Education Systems - Higher Education in Saudi Arabia: is divided into two sections. The first section includes the background to eLearning and internet services in higher education in Saudi Arabia where this research is located. It also includes a description of current initiatives for improvements to higher education

projects while pointing out some of their short comings. The second section describes the features of eLearning in terms of seeking a suitable definition by discussing the wide range of terminology that is used.

Chapter Three: Web 2.0 [read/write web] in Higher Education: presents an extensive discussion of the literature on web 2.0 technology and blog tools. It begins with a description of the innovation of web 2.0 and blog tools. Its features, drawbacks and specifications for use in higher education and the perception of the learners are then discussed. The various methods of communication that could be adopted within a learning environment are reviewed. The chapter concludes by discussing and analysing the relevant empirical studies associated with the current research.

Chapter Four: Educational Theory: opens by addressing the roots of eLearning and learning theories. The relationship between them is defined. The chapter concludes by developing the research's theoretical basis that arises from associated theories and concepts. Three main contributory theories are described, i.e. behaviourism, cognitivism and constructivism together with leaning concepts of the three models that are relevant to this research, i.e. Bloom's Taxonomy, Boud's Model and the TAM Model.

Chapter Five: Research Methodology: discusses the research methodologies used by this research. It includes research paradigms and data collection techniques and a justification for their use.

Chapter Six: Research Design: describes the pilot study's framework, i.e. its procedures, the selection of the participants and adapting and testing the data collection instruments (observation, interviews and questionnaire) and the final modifications that were made to the research's design. In this regard, the problems found associated with

IT are identified and discussed together with the benefits and lessons that were learned, which will be adopted for the empirical study.

Chapter Seven: Implementation of the Study and Data Analysis: describes the empirical study's implementation, a description of the empirical work, the module's syllabus, the objectives and participants' demographic information. The chapter continues to describe how the data was organised in preparation for analysis. The chapter closes by justifying the research's approach toward its data analysis techniques, i.e. thematic analysis.

Chapter Eight: Action Research Cycles: describes, in-depth, the three action research cycles, which were adapted by utilizing the bog tools of the empirical study. Each cycle included a number of processes, i.e. preparation, planning, action and the order to follow by describing the order by which the data was collected, evaluating the results and re-planning the subsequent cycles. The chapter describes learners' interactions and opinions with respect to their observed reflections.

Chapter Nine: Conclusion Discussion and Recommendations: includes the answers to the research questions. It presents the research's key contributions to knowledge, practice and theory, its recommendations, evaluation and limitations together with suggestions for future research.

2 **EDUCATION SYSTEMS - HIGHER EDUCATION IN SAUDI ARABIA**

2.1 **INTRODUCTION**

This chapter describes the cultural basis of the Saudi Arabian education system, the development of its higher education institutions and the concept of eLearning. The chapter's first section presents an overview of previous efforts to bring about improvements in current projects that seek to integrate eLearning in the country's higher education institutions. It is by understanding these recent initiatives, plans and efforts that the reader can gain an insight into this study and learners' perceptions. The chapter gives a brief overview of Saudi Arabia, i.e. its society, social life, economics and the culture of its education system. In addition, the chapter describes the recent radical improvements and developments in eLearning strategies in higher education in the country. This study will fill an important void in the relevant research literature. This research aims not only to identify and discover learners' attitudes, skills and knowledge that arise from the implementation of web 2.0 via blogs but also to identify those factors and their interrelationships that are associated with diverse perspectives, such as, educational culture.

2.2 **SAUDI ARABIA'S COUNTRY, POPULATION AND EDUCATION SYSTEM**

The official name for Saudi Arabia is the 'Kingdom of Saudi Arabia'. It includes thirteen administrative regions. The capital city is Riyadh with a population of approximately 6 million. The Kingdom's area is 2,250,000 square km² and occupies almost four-fifths of the Arabian Peninsula's 3,237,500 square km² (see Figure 1). The official language is Arabic. According to The Central Department of Statistics and

Information¹ (CDSI), the country's total population is 28,376,355 million, of which 19,405,685 355 million are Saudi nationals (CDSI 2012). Saudi Arabia is planning to establish two new cities to accommodate the increase in its population over the next 50 years (Al-Khalifa 2010).



Figure 1: Saudi Arabia's map

Government institutions were traditionally the kingdom's major employer. The Sixth Development Plan (1994-1999)², however, allowed for the expansion of the private sector³ into the public one. As a result, private sector involvement increased and became responsible for running some government ministry services including the establishment of private universities in 1999. Education in Saudi Arabia is free from pre-school to university level (i.e. bachelor, diploma and master and PhD levels) but not in private education institutions. In publically funded institutions, books and health services are supplied without charge.

From 1949 until recent seven universities existed that offered higher education in the Kingdom. In the last few years, the number of universities and colleges has increased to

¹ <http://www.cdsi.gov.sa/english/>

² MoHH, updated in Jul 2012 <http://www.mohe.gov.sa/ar/studyinside/Private-higher-Education/Pages/default.aspx>

³ As a result, in last decade, two private telecommunication companies were established to improve internet access and raise the number of those connected to it.

fifty-seven⁴. The number of universities in the Kingdom is as follows. There are twenty-five publically funded universities incorporating three hundred and twenty-three colleges and thirty-two private universities incorporating eighty-nine colleges (Ministry of Higher Education 2012). The increase in the number of higher education institutions has enabled ninety-two per cent of high school graduates to be accepted for places in higher education. This means that participation (for the target age range) in higher education over the last ten years has risen from 18% to 34%. Moreover, it is expected that one million students will enrol in 2012/2013 in higher education institutions.

By 2013, there were twenty-five publically and thirty two private universities (see Appendix H and Appendix I). The total number of students enrolled in higher education in public universities is 898,251 with 275,905⁵ students enrolling in 2011/2012⁶. There are 45,024 students enrolled in private universities and colleges. In addition, 130,000 students with government scholarships study at different universities in 46 countries around the world⁷. The total number of staff involved in higher education is 45,593⁸ (Ministry of Higher Education 2012). This increase was the result of the growth of government plans and programmes for education, especially in the higher sector (Al-Khalifa 2010).

⁴ Statistics Centre of Ministry of Higher Education in SA

<http://www.mohe.gov.sa/AR/MINISTRY/DEPUTY-MINISTRY-FOR-PLANNING-AND-INFORMATION-AFFAIRS/HESC/UNIVERSITIESSTATISTICS/Pages/default.aspx>

⁵ 258,617 students have been accepted in 2012/2013 in government university

(SPA 2012): <http://www.spa.gov.sa/NewsHeadlines.php?pg=3&lite=>

⁶ Statistical summary of students Enrolled in 2010/2011 available at MoHE: <http://www.mohe.gov.sa/ar/Ministry/Deputy-Ministry-for-Planning-and-Information-affairs/HESC/Ehsaat/Docs/B1431-1432-1-1.html>

⁷ Statement of the Deputy Minister of Higher Education April 2012 at: <http://www.alriyadh.com/net/article/730746>

⁸ The information from the official websites of the MoHE, updated:17/4/2012 available at: <http://www.mohe.gov.sa/ar/ministry/deputy-ministry-for-planning-and-information-affairs/hesc/universitiesstatistics/pages/default.aspx>

Currently the MoHE aims to develop initiatives that promote the integration of new technology⁹ by encouraging scientific research in different areas, preparing and training academic staff and sponsoring conferences, etc. (Ministry of Higher Education 2012). The next sections describe the country's higher education system and current developments in eLearning.

2.3 ECONOMIC DEVELOPMENT IN HIGHER EDUCATION

The significant growth of eLearning in Saudi Arabia is a result of increased national income. The budget allocated to education is at an historic high, which affects many projects. In addition, the increase in national income has dramatically affected the development of higher education. By 2004/2005, in line with rising prices, oil represented more than 80% of the country's income. Saudi Arabia has the largest reserve of oil, i.e. 26% of its proven total. Other income comes from petrochemical products, iron, gas, copper and gold (UNBD 2008). The budget allocated to education for 2012 will result in spending 168.6 SR¹⁰ billion (\$45 billion, which is 24% of the national budget¹¹).

In response to this fiscal increase, most institutions, whether government or private began revised their development plans and strategies. The Ministry of Higher Education (MoHE) has focused upon developing strategies that develop the country's higher education sector. Over the last seven years, the Ministry has instituted and conducted a number of projects that are relevant to this research, namely, it established the National Centre for eLearning and Distance Learning in 2006.

⁹ Goals and objectives for MoHE updated August 2010: <http://www.mohe.gov.sa/en/aboutus/Pages/default.aspx>

¹⁰ 1 GBP = between 6-5.5 SA (Saudi Riyal).

¹¹ Recent Economic Developments in Saudi Arabia, Highlights the Final Years 1432/1433 (2011) & 1433/1434 (2012) updated 26 December 2011.

<http://www.mof.gov.sa/English/DownloadsCenter/Budget/Statement%20by%20the%20Ministry%20of%20Finance%202012%20Final.pdf>

This centre was set up as a response to a demand for the need to support the efforts of universities in developing and coordinating the best use of eLearning based distance learning applications provided over the Internet¹² e.g. blackboard.

2.3.1 HIGHER EDUCATION IN SAUDI ARABIA

This section describes the key aspects of the higher education system in Saudi Arabia. The section also describes the dramatic growth over the last few years that have led higher education institutions to receive the highest level of funding in their histories. This section also reviews the efforts made by universities to integrate eLearning strategies brought about by the project referred to above. This project has received significant attention and support from the highest authorities, especially with respect to integrating technology, e.g. web services within classroom environments.

2.3.1.1 Overview of the Higher Educational System in Saudi Arabia

The education system of Saudi Arabia was formally established in 1953 by three government institutions. The first institution was the Ministry of Education (MoE). Its function was to

“Range from policy-making, planning and budgetary staffing to provide physical and teaching materials and supplement all elementary, intermediate and secondary schools.”(Alsalloom 1995, p.22)

The second institution was the Ministry of Higher Education (MoHE), which was established in 1975 to administer, develop and coordinate the Kingdom’s demands with

¹² The internet officially became available to the public in 1997. Originally the government was responsible for providing Internet and telecommunication services. These services and internet access was very weak and slow because it relied upon dial up connections. As a result of the engagement of private telecommunications companies (i.e. STC and Mobily companies), internet access has become faster and is available nationally. In addition, new services, e.g. mobile internet access (web browser), home broadband cable Internet have been introduced. Indeed, the Internet continues to grow rapidly; it will become faster accompanied by a lower cost. Consequently, the number of internet users rapidly increased from 1 million in 2001 to 6.2 million in March 2008, to 11.4 million users in 2011 and to 14.2 million in March 2012 (CITC 2012). Internet access is becoming faster and available for any purpose in most regions of SA, such as, for use in education systems. Thus, the engagement of the private sector in telecommunication services has caused a massive improvement in Internet services. It is becoming better with a decrease in price.

regard to higher education. Its intention was to develop a national cadre of specialists in the administrative and scientific fields to facilitate national development (Ministry of Higher Education 2012). The third institution was the Technical & Vocational Training Corporation (UNEVOC). Its function was:

“To train and develop the national manpower in technical and vocational fields according to the labour market’s needs both in quality and quantity terms.”
(UNESCO)¹³

In addition, national policy states that the main aim of education (in general) is to satisfy the needs of the country’s communities and reflect its cultural norms and ways of living.¹⁴

The Ministry of Higher Education supports and maintains the development of all the country’s universities i.e. for male and female colleges¹⁵. Diplomas, Bachelors, Masters and PhD degrees in different scientific and humanity specializations are offered. In addition, there were no private universities in the Kingdom prior to 1999/2000. Up to that date there were just seven government-funded universities, see Appendix H and, Appendix I.

¹³ Global Network for Technical and Vocational Education and Training,
http://www.unevoc.unesco.org/netw_dir3.php?browse=id&id=300

¹⁴ Foundation of education systems in Saudi Arabia, <http://www.moe.gov.sa/Pages/educationPolicy.aspx>

¹⁵ The higher education system in Saudi Arabia started is segregated by gender since it stabilised (MoHE 2009). The minister of higher education (MoHE), however, is obliged to provide equally for both males and females. Consequently, each university college has two departments for each field of study, e.g. educational technology departments for males and females exist. Further, a single manager administers them. It is usually drawn from the male department. Frequently, male instructors teach males student at same time are able to teach female students if required but via interactive TV (ITV) or one-way video conference or two way audio, which may incorporate broadcasting (see Alanazy 2011 and Al-Khalifa 2010). In this research, the researcher only had access to male students (more information concerning the criteria for the choice of participants is found chapter 7, sections 7.3.1).

In addition, as the researcher mentioned above, the government is responsible for establishing universities, the provision of places, funding students, maintaining the number and training of faculty members and any other issues that relate to the development of a comprehensive system of higher education.

Moreover, Saudi Arabia, like any other country, has faced numerous challenges in higher education including technological ones. In particular, technology has not been effectively integrated into the teaching process (Alnujaidi 2008). Some of the challenges arose as a result of the inquiry to increase the number of university places caused by an increase in the number of higher education students [696,152 students in 2008/2009 to 898,251 students in 2011/2012]¹⁶ (Alkhazim 2003; Ministry of Higher Education 2012). To achieve the increase, existing plans for higher education had to be radically revised. One plan is to increase the Kingdom's higher education infrastructure, by for example, building new utilities that are more efficient, introducing effective management systems, buying new equipment, increasing staffing levels, integrating technology and improving teaching skills (Ministry of Higher Education 2012).

Utilizing technology has become a major concern for education in the country, especially in higher education. The country seeks to gain perceived benefits by utilizing technology. Some of these benefits include improvements not only in the quality of critical thinking and learning (Chang 2008; Lin et al. 2006) but also to the learning environment via enhanced interaction, communication, motivation and the removal of the restrictions of time and place on the educational process (Asiri et al. 2012; Garrison and Anderson 2003). Other benefits that are thought to accrue from the

¹⁶ MoHE final statistics: <http://www.mohe.gov.sa/ar/Ministry/Deputy-Ministry-for-Planning-and-Information-affairs/HESC/Ehsaat/Docs/B%201429-1428%20G%201-1.html>

correct use of technology are improved pedagogy, increased cost-effectiveness, wider access, flexibility and simplified revision (Alebaikan and Troudi 2010).

These aspirations were enshrined in the National Communication and Information Technology Plan in Saudi Arabia (NCITP)¹⁷ in 2007. The plan focused on the future development for the deployment of information communication technology in education. The Ministry of Higher Education supported the eLearning project in the country's universities by establishing the National Centre for eLearning and Distance Learning NCEDL.

2.3.1.2 National Communication and Information Technology Plan

The National Communication and Information Technology Plan (NCITP) gained the approval of the Council of Ministers (decision no.160) on 27 May 2007 (NCITP 2005). It included a long-term perspective for communication and information technology in Saudi Arabia for the next twenty years. The plan offered a vision of the future, incorporating seven general aims, an initial five-year comprehensive plan including twenty-six goals, sixty-two operational policies and ninety-eight projects. In particular, objective fifteen supported the deployment of information communication technology in education, training and the adoption of eLearning (ibid 2005, p.46). More specifically the NCITP identified this aim as,

“... the establishment of a national center for e-learning to offer the service and its encouragement by preparing the regulations and policies governing the e-learning process, formulate a unified model for e-learning using standard specifications, develop quality assurance standards for e-learning, issue quality assurance certificates for e-learning systems and measure the efficiency of various technologies as aids for the e-learning process.” (NCITP 2005, p.75)

¹⁷<http://www.mcit.gov.sa/NR/rdonlyres/E8C255A7-E423-4F36-B9B3-C5CAAB6AE87A/0/2NICTPEng.pdf> This is an unofficial Translation of the Arabic text of the National Communications and IT Plan from Ministry of communication and information technology

Over the last few years, universities have begun to appreciate that integrating online services can make a positive contribution towards improving systems. One of the most important steps universities have sought in recent years is the development of the web services using eLearning strategies.

2.3.1.3 ELearning in Higher Education in Saudi Arabia

Before discussing eLearning projects found in Saudi Arabia, several points first need to be addressed. A recent report in Saudi Arabia predicted that the value of the eLearning market in the Kingdom would increase from thirty to one hundred and twenty-five million dollars by 2008 (Al-Jazira 2005)¹⁸. Institutions of higher education in Saudi Arabia have recently become aware of the significant contribution that eLearning makes. They, therefore, have invested heavily in the field of pedagogy and training using technology as an aid to make education more accessible, thereby, raising standards and improving its quality. The report claims, that the volume of the eLearning market in Saudi Arabia is expected to be the largest in the Middle East. It is assumed that the volume of eLearning in Saudi Arabia will multiply by 33% over the next five years¹⁹. Furthermore, use of information technology in Saudi Arabia is growing rapidly since the government feels the need to integrate information technology in order to provide a good quality of learning in higher education.

With regard to that objective, the Ministry of Higher Education in Saudi Arabia commissioned a team responsible for designing and developing a model to be circulated to academic institutions. As a result, in 2006/2007 the National Centre for

¹⁸ Al-Jazirah newspaper, <http://www.al-jazirah.com/> is one of main daily magazine in Saudi Arabia, which is sponsored by the Saudi Arabian government. It was established in 1960.

¹⁹ There is no current information about the hypothesis correction of this number.

eLearning and Distance Learning (NCEDL)²⁰ became established under the auspices of the Ministry of Higher Education. Its objectives²¹ were:

1. Disseminate quality eLearning strategies to universities.
2. Expand the capacity of e-learning applications.
3. Disseminate technological awareness and raise the cultural vision of e-learning in academic societies so that it can make a positive contribution to the society of the future.
4. Participate in the evaluation of e-learning projects and distance learning.
5. Establish quality standards for the design of educational multimedia.
6. Provide advice about different educational systems and e-learning.
7. Produce educational programmes and help the public and private sector to do so.
8. Promote special projects in educational institutions.
9. Prepare for conferences and seminars in the field of e-learning.
10. Co-operate with international centres for e-learning.

As a result, two international conferences were arranged and supervised by the NCEDL. The first conference was held in March 2009. The purpose of this conference was to focus on eLearning strategies to develop the learning environment and rules for utilizing and focusing upon recent research into this kind of technology and its applications. The second conference was held under the title “*Unique Learning for Future Generations.*” It was held in February 2011. Twenty-nine points were recommended and are summarised as a conclusion as follows.

1. Take advantage of the read/write web by incorporating its applications into education and attempt to derive the benefits.
2. Integrate recent strategies for online learning in education and research to design e-learning courses and to discover best practice and methods of verification and to derive maximum benefit from them.

²⁰ <http://www.elc.edu.sa/portal/>

²¹ <http://www.elc.edu.sa/portal/index.php?mod=content&page=24>

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3. Encourage the research centre to conduct research into the area of eLearning courses and training, especially for read/write applications.

‘The NCEDL has laid down many of required foundations and infrastructure and provided the resources to help kick-start the process. Through the practice of prudent management of resources the national center hope to provide best eLearning experience to diverse group of students.’ (Almegran et al. 2007 para.21)

All the projects conducted by universities in the field of eLearning have been implemented in accordance with the NCEDL’s objectives and recommendations described above. With respect to the importance of technology for integrating eLearning strategies to improve the quality of learning, some universities started to develop, revise and organize their use of eLearning strategies. For instance, in 2007 King Saudi University established a Deanship of eLearning and Distance learning.²² Its aims are listed below:

1. Develop a strategic plan for e-learning programmes at the University.
2. Find a suitable environment to promote e-learning applications.
3. Develop the technical standards and regular applications of e-learning at university level.
4. Co-ordinate the faculties of the University and its branches regarding plans and programmes for e-learning and distance education.
5. Provide and train technicians to support the development of faculty members.
6. Provide technical and training support for faculty members in the development of electronic decisions and digital content.
7. Supervise the systems of e-learning and distance education and co-ordinate them with the relevant actors.

As a result of the NCED initiative, a total of 2,336 courses were provided by Saudi universities for training their faculty members during the first semester of the academic year 2009/2010 using, for example, eLearning portal systems, e.g. blackboard and different ways of utilizing Internet services within the learning environment (Hussein

²² <http://www.ksu.edu.sa/SITES/KSUARABIC/DEANSHIPS/ELEARN/Pages/Introduction.aspx>

2011). In addition, as far as the researcher is able to ascertain, there are no references whether these courses been evaluated.

The first university to apply eLearning strategies was King Abdul Aziz University in Jeddah using distance-learning approaches. The provision of this system has served numerous learners who cannot physically participate in campus-based education. This new and modern project represented a huge step in the development of education in Saudi Arabia at that time. More recently, for example, in 2005-2006, King Khalid University initiated a new and experimental project, which used e-learning methods on a large scale to provide online services, curricula and material for staff and students.²³

All the various research projects have aimed to keep abreast with the direction being followed by public education so that the latter can adopt the latest researched eLearning strategies. Impelled by the need to improve the quality of general education, a number of initiatives have been under taken by education societies and institutions to integrate eLearning into the national education system at all levels. Apart from the efforts made by Saudi Arabian universities to integrate eLearning there are many indications, which give optimism that these strategies will be introduced into the country's general public education system. One of these indicators shows that Saudi Arabia has the desire to use the power of eLearning systems in their institutions of education. In 2007, Riyadh (the capital city) hosted the first large scale conference on eLearning²⁴. One of its recommendations was to conduct further research into the field of eLearning in Saudi Arabia in order to develop teaching methods to achieve four main aims, which are:

1. To identify e-learning systems (Understanding / Theories / Aims)

²³ http://portal.kku.edu.sa/KKU_Website/Ar/index.htm#

²⁴ <http://www.elf.gov.sa/>

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2. To demonstrate to the world of education what needs to be integrated into eLearning systems and its applications and to apply the correct educational approach. In other words, to recognize the requirements of eLearning, including the barriers and factors that would affect it.
 3. To define management systems relevant to the e-learning environment
 4. To present other experiences in the field of eLearning.

The sponsor of this conference was the Ministry of Education in Riyadh. In addition to the main conference, there were peripheral activities, such as, workshops, papers, meetings and an exhibition to raise awareness and sensitivity as well as to demonstrate the importance of eLearning in education. The conference made twenty-four recommendations, which all focussed on how to improve e-learning strategy in terms of pedagogy in Saudi Arabian institutions (for the most part in public education).

The final report, in 2008, of the Communication and Information Technology Commission (<http://www.citc.gov.sa>) into the use made of the Internet at all levels in the education system in Saudi Arabia showed that the majority of institutions in the public and higher education sectors have computer facilities. A quarter, however, remained unconnected to the Internet. The report indicated this was because some of these institutions considered the Internet unimportant; therefore, there was no need for it. The most significant reason, however, was associated with a lack of knowledge of how to use the Internet for educational purposes (CITC 2008). Furthermore, they found that the Internet was more widely used by high schools and higher education institutions compared to elementary and secondly schools. The report's most significant finding was that eLearning implementation was not popular in educational institutions, in other words, education institutions made limited use of eLearning strategies. The report, however, did stress that there was a year-by-year increase in awareness of the concept of Internet usage by education institutions. The report found that while forty-six per cent of education institutions possessed a portal website only fifteen per cent

provided eLearning services. The report did not mention what type of eLearning was provided but indicated that thirteen of these latter institutions used the Internet for education activities, while, “*surprisingly, the teachers are less than any other members in education institutions for using the Internet*” (CITC 2008, p.12).

As described above there have been efforts by some institutions to implement eLearning strategies. One such initiative is to support research projects. The use of the eLearning services by lecturers in higher education is very limited and they tend to be used as supplementary resources for modules (Alebaikan 2010). This may be because of the dearth of research projects into the potential use and benefits of eLearning. In addition, the report found that fifty-eight per cent of the universities and institutions did not provide appropriate training programs for eLearning (CITC 2008). A second reason for the paucity of eLearning was the lack in fully understanding the concepts behind some of the new innovations, e.g. web 2.0 (Alzahrani and Woollard 2012; Al-Khalifa 2010; Alebaikan 2010; Al-Othman 2009). Moreover, the CITC report (2008) showed that the proportion of their budgets spent by Saudi educational institutions on training programs and technical support was less than in 2007 (CITC 2008).

The study of Al-Othman (2009) concurs with the previous report. She analysed more than sixty PhD thesis and Master’s dissertations in the field of educational technology. She found that the number of studies in education with regard to the use of Internet applications compared to other subjects was very low. Furthermore, she strongly recommended that higher education institutions should pay closer attention to eLearning research and strategies, particularly with respect to Internet applications. In addition, she suggested an increased focus upon research with regard to utilizing web 2.0 (read/write web) in higher education.

Research by other Saudi universities showed there was a serious desire to integrate eLearning tools and services²⁵ by providing commercial Learning Management Systems, such as WebCT (e.g. Blackboard) and to encourage the use of eLearning (Alebaikan 2010). For example, universities have started to get some of their objectives recognised and integrated into eLearning strategies. Some universities have opened eLearning gates. These are products that service eLearning systems and provide the tools to help students and staff to improve learning. These gates have the potential to be used with eLearning courses in universities (<http://www.elf.gov.sa/>).

2.3.2 SUMMARY

This part of this chapter has discussed the culture background associated with the Saudi Arabian education system. It also presented a chronological overview of the plan for the massive improvement in eLearning strategies and its introduction into higher education in Saudi Arabia. The research found that fiscal resources for developing eLearning strategies aimed to develop its implementation and practice in higher education. Conducting this research in the field of eLearning is a consequence of this project's plan in Saudi Arabia.

The next part of this chapter discusses the concept of eLearning, its features and drawbacks. Furthermore, it will discuss the different visions that are held of eLearning. The features of eLearning that make universities in Saudi Arabia demand eLearning services and tools will be identified and discussed.

²⁵ Few years ago ,e.g. King Fahad University (KFUPM), King Saudi University (KSU), King Abdulaziz University (KAU) and King Khalid University (KKU) established eLearning centre with an e-Portal to administer and assist an interactive web-based supplementary. It includes e-services, academic support, training provided and an e-Library.

See: KFUPM: Information technology centre ITC: <http://www.kfupm.edu.sa/centers/itc/default.aspx>

KSU: Deanship of ELearning and Distance learning: <http://ksu.edu.sa/sites/KSUArabic/Deanships/Elearn/Pages/default.aspx>

KAU: Deanship of ELearning and Distance learning http://elearning.kau.edu.sa/Default.aspx?Site_ID=214&Lng=EN

KKU: Deanship of eLearning <http://elearning.kku.edu.sa/>

There is little research and meagre reference in the literature about the factors that influence the implementation of new eLearning tools, i.e. read/write [web 2.0]. The affect of exposure to Internet applications, such as, read/write [web 2.0] on a learner's behaviour, knowledge and skills is poorly understood. These issues will be discussed in the next section.

2.4 ELEARNING: CONCEPT, FEATURES AND DRAWBACK

The previous section reviewed the education system in Saudi Arabia, particularly the plans for improvements to its higher education sector. The massive improvements due eLearning projects in higher education in Saudi Arabia have already been acknowledged by this researcher. The huge increase in the number of students enrolled in higher education is a result of a rapid growth in the country's population and heavy investment in its educational infrastructure. This investment has come about via financial support that has enabled new universities to be established including private ones. In addition, there has been support for other projects that have developed and improved the education system. The most relevant projects with respect to this research are the ones that develop eLearning services and applications at different levels within the country's higher education system by establishing, for example, deanships of eLearning strategies in Saudi Arabia's universities and support eLearning research and projects.

This section complements the previous one, because it will describe the reasons that propelled plans in Saudi Arabia for the development of eLearning services. A discussion of the different definitions of eLearning, its categorisation and ways it is used in education is included in this section. The discussion will focus on describing the features of eLearning that make universities in Saudi Arabia seek to adopt it. Furthermore, there is little research and meagre reference in the literature about the

factors that influence the implementation of eLearning tools, learners' behaviour, knowledge and skills due their exposure to Internet applications, e.g. web 2.0. These issues will be considered in the next section.

2.4.1 THE ELEARNING CONCEPT

By the 1990s, multimedia development brought about substantial improvements in the quality of educational programs and software. The development and dissemination of eLearning was greatly enhanced by the development of the World Wide Web [WWW], because its software was able to incorporate Internet sources and applications as well as resource tools. Technology and learning continued to improve with respect to the rapid developments associated with improvements to the learning environment. Furthermore, eLearning developed by effecting changes to the structure of those technologies (Demiray 2010a).

ELearning has attracted the attention of educational institutions, especially with regard to adapting it to the classroom environment (Guri-Rosenblit 2005). ELearning offers a number of educational advantages, for example, its flexibility is considered to be a contemporary approach that supports teaching and the learning environment (Mylonas et al. 2004). In addition, eLearning supports professional development and best practice via the use of Internet tools that provide 'rich-technology' to classroom activities (Margolin et al. 2011).

2.4.2 DEFINITION OF ELEARNING

The definition of eLearning changes frequently according to the precise Internet application and technological development. Romiszowski (2004) found more than twenty definitions for eLearning from fifty articles. He said,

“..but as I managed to count more than 20 different definitions in the 50 articles, the chances of an author’s understanding exactly matching that of the majority of the readers are very low—unless the specific definition to be used is actually stated in the article”(p.6).

In addition, understanding the different ways of utilizing eLearning may lead to an appreciation of the limits of its meaning. Furthermore, eLearning is a strategy that could be applied to the educational environment in two ways. Firstly, as *synchronous*, adapting in real time with an actual learning process, which means using eLearning during classroom time, i.e. autonomously or individually by either using Internet access and websites services or with a group of learners, such as, in a chat room or through applied video or audio conferencing. Mostly it is used,

“...with those who need to conduct meetings with a distributed work team through technologies, such as, WebEx” (Palloff and Pratt 2007, p.69).

Secondly, it can be used as *asynchronous* communication between participants in flexible time. It is,

“A type of communication that can occur at any time and at irregular intervals, meaning that people can communicate online without a pattern of interaction” (Ibid p.271).

In other words, learners in an educational environment are able to communicate when they are off-campus. Examples of asynchronous activities are downloading coursework materials from the Internet or participation in an online learning group or communication with/via email groups (Romiszowski 2004). Furthermore, Henderson (2003) added an additional way through which eLearning acts, i.e. *self-directed learning*. This involves learners engaging in actions alone on their own using resources that are delivered over the Internet. Some researchers consider that *self-direct learning* promotes skills that the learner could gain by using eLearning tools. Al-Shehri (2010) said, “*E-learning enables learners to be more self-directed, inquisitive and reflective.*” (p.147).

Learners, however, engage in research via online browsing when on campus. They seek particular materials to assist them with their tasks. At the same time, they are connected to software for learning e.g. CD-ROMs i.e. Story Board. It would then be consistent, therefore, to be synchronous with asynchronous ways, which one could describe as self-directed learning.

In addition, improvements to and the flexibility of Internet applications and services create areas that intersect with respect to the different meanings of synchronous and asynchronous. For example, by using two different methods in the learning environment or presenting video conferences to record and play back for the benefit of learners who are not present (Morrison 2003, p.7). Furthermore, Morrison (2003) used the terms eLearning in his book “*E-learning Strategies: How to Get Implementation and Delivery Right First Time*”. He focussed solely on synchronous and asynchronous learning and emphasized eLearning is a term administered by utilizing Internet technologies. He said:

“E-learning is the continuous assimilation of knowledge and skills by adults stimulated by synchronous and asynchronous learning events and sometimes Knowledge Management outputs, which are authored, delivered, engaged with, supported, and administered using Internet technologies.”(p.4)

This concept is similar to the eLearning definition given by Rosenberg (2001). He asserted that eLearning combined with ‘Internet’ technology provides and delivers a solution that enhances knowledge and performance. He said,

“E-leaning refers to use in Internet technologies to deliver a board array of solutions that enhance knowledge and performance.” (p.28)

With regard to the above combination, different definitions are presented via different visions, for example, the term eLearning is defined as the utilisation of a computer network with any technology or Internet service in education (Welsh et al. 2003). In addition, eLearning could be defined as the use of Internet services to provide the

instructions for teaching (Rahmat and Mohd-Saudi 2007). The term is also used when, “... *someone is learning in a way that uses information and communication technologies (ICTs), they are using e-learning*” (Department for Education Skills in UK 2003).

According to this definition, Internet services occupy the apex of the wave of the concept of eLearning in most of the studies in this field. This research will use this definition, but also, eLearning includes the integration of Internet service usage in the learning environment, i.e. web 2.0 via blog tools in an asynchronous way.

2.4.2.1 Online, blended, and E Learning, is it same meaning?

Significantly, the term “online learning” is used rather than ‘utilizing Internet for learning’ when referring to eLearning (Biggam 2004). Researchers used the term ‘online learning’, particularly when the study concerns web services (Kear et al. 2012; Casey and Evans 2011; Wang 2011). Some researchers also use this term to refer to the same methods that were mentioned in the previous paragraph, i.e. eLearning technology via computer adaptation but they are often referring to Internet services (Biggam 2004; Tan 2009; Alhojailan 2012c).

ELearning is frequently engage via Internet applications and services (Rosenberg 2001; Morrison 2003; Biggam 2004). Furthermore, it is always involved in changes due to the development of the applications and tools or to differences in the services that are provided (Henderson 2003). This is one reason to tighten and restrict the term eLearning to the ‘term online learning’. Moreover, the term ‘blended learning’ mostly used when the researchers seek to combines activities and teaching styles adapt via online and in-class i.e. face-to-face (Reem Alebaikan and Troudi 2010; Yushau 2006) e.g. utilize web-based activities, this meaning is very similar to the term

‘Asynchronous’ i.e. the second style of eLearning (see previous discussed in section 2.4.2), some researcher used the term ‘blended eLearning’ described teaching course with online and face-to-face, as it “*requires students to participate in online activities*” (Kanuka 2006, para.2), for that reason, the term blended learning will not be used in this research as it represent the same meaning of the term asynchronous (see previous section). Additionally, ‘blended learning’ term could be indicated as a combination with “eLearning” term to describe when utilized internet with face to face activities so they named it as “blended e-learning” (Yushau 2006).

In addition, the terms eLearning and online learning could be used synonymously due to the type of the technology being implemented. For example, Brownson (2010) used the term ‘online learning’ to investigate the use of read/write web services (web 2.0) while Palloff & Pratt (2007) used the term ‘eLearning’ when utilizing same application. Therefore, eLearning and online learning in this case share same meaning. A comprehensive definition is given by (Stojanovic et al. 2001, in Drucker, 2000) who described eLearning as,

“....the delivery of individualized, comprehensive, dynamic learning content in real time, aiding the development of communities of knowledge, linking learners and practitioners with experts”(p.2).

This definition ignored the usage of non-real time, i.e. when the learners are off-campus using eLearning. There is, however, more than one definition of eLearning even when there is no agreement on the way of writing the term, whether it is ‘ELearning’ , ‘eLearning’, ‘e-Learning’ , ‘E-learning’ or even ‘online learning’ (Romiszowski 2004). On the contrary, Biggam (2004) argues that some education institutions support the meaning that ‘eLearning’ refers to a broader concept than

‘online learning’. ‘Electronic’ as a term should depend on the wider materials that could set it within a range of media, such as, CD-ROMs or PDAs. The Australian national training authority identified eLearning (ANTA) as,

“ELearning is a boarder concept (than online learning),.....the term e-learning is now used in the Framework to capture the general intent to support a board rang of electronic media (Internet, intranets, external, satellite broadcast, audio/video interactive TV and CD-ROM.” (Backroad Connections Pty Ltd 2003, p.3)

Morrison (2003) offers a completely different argument. He said, “...online learning and e-learning mean the same thing” (p.xvi). He claimed that the use of the terms ‘eLearning’ and ‘online learning’ depend on the research context or the studies that refer to the learning materials, e.g. activities or tasks that use the web, such as, online services or tools, reflect the word ‘electronic’. In addition, with reference to the definition of eLearning given by the eLearning Centre in Port Said in Egypt²⁶ (ECPSE), there appears to be a wide range of conceptual meanings. They define the term as follows.

“ELearning is transfer of an educational program from its position on the campus of an educational institution to other geographically separate locations and aims to attract students who cannot under normal circumstances to continue an educational program in a traditional.” (<http://elc.psu.edu.eg>)

The different definitions that been given by various education and academic institutions indicate that eLearning involves electronic applications and services, such as, the Internet, web-based services (applications), blogs, wiki, CD-ROMs and TV programmes. ELearning has become available in both real (during classroom) and flexible time (off-classroom) for learners to take the opportunity to become interactive. This definition includes all the resources that could be used to transfer educational programmes and materials to a leaner’s location whether he/she is either off- or on-

²⁶ The eLearning centre in Port Said in Egypt official website: <http://seu.edu.sa/>

campus. Nonetheless, this definition does not indicate what electronic services are used to affect this transfer. The transfer could be paper-based.

A similar concept, which has a wider vision places eLearning in the digital age. This definition includes all the technology that is required to improve learning, such as, Internet services outside or within the classroom environment (Asirvatham 2003 in Selvaratnam 2004). This definition recognises Internet involvement with information technology, that is, data (content or information) is transferred via Internet portal sources or applications (Collis and Moonen 2001).

The definition of eLearning given by the Saudi Electronic University²⁷ (SEU) focused on the synchronous way of eLearning, which provides electronic educational support to learners at the same time and in the same place, i.e. within the campus, they defined eLearning as,

“The recruitment techniques and applications of computing and information networks and others in support of the educational process that takes place in traditional learning environments that are based on the existence of learners in the same place and time” (<http://seu.edu.sa/pages/view/35/>).

This definition revolves around the synchronous way of eLearning, as it aims to provide eLearning tools to learners at the same time and in the same place. This approach, however, does not allow the use of eLearning tools when the learners are out of class.

The differences inherent in the arguments about definitions lead one to acquire different ideas that relate to actual usage. For example, an argument has arisen over the term eLearning with respect to two different levels for its implementation. The DMU

²⁷ Saudi Electronic University official website <http://elc.psu.edu.eg>

University's²⁸ technology school²⁹ divided learners into two groups for the module entitled "*COMP5262: Research, Ethics and Professionalism in Computing*". One group sat at home³⁰ and communicated via Internet services (they used blogs as their interactive service). The second group sat on campus³¹, which meant that the learners attended class. Both groups utilized eLearning (a forum via blackboard and a blog application with email communication). It would, therefore, not be consistent to categorise both groups as eLearning in the same way. One group is not completely dependent on Internet services. In this regard, Bates (2001) claims that eLearning can exist as a mixture of the two modes, i.e. synchronous and asynchronous. It is possible, therefore, to establish an eLearning environment for learners where they only receive, act and communicate with materials off-campus by technological means, e.g. they communicate via Internet tools. This eLearning environment could be integrated within a traditional learning setting where learners receive, act and communicate with the materials of their modules off-campus via technology, e.g. activities should to be done via WebCT tools.

The importance of classifying the term 'eLearning' is to support plans to build an infrastructure and strategy for educational purposes. For example in the previous paragraph, the definition given by SEU concerned and supported the use of eLearning tools by learners at same time and in the same place, i.e. the synchronous way (for more information see section 2.4.2). The strategies and plans for eLearning adoption with this definition should logically focus upon the integration of electronic facilities

²⁸ <http://www.dmu.ac.uk/home.aspx>

²⁹ Centre for Computing and Social Responsibility at Technology school (CCSR), <http://ethics.ccsr.cse.dmu.ac.uk/ccsr>

³⁰ In this situation, it is not compulsory for learners to come into the classroom unless they want.

³¹ In this situation, learners have to come and attend class.

during classroom teaching (teaching with electronic tools), because the strategies and plans should to provide a guide to direct and administer universities with respect to successful adoption of eLearning (Biggam 2004). With that, the definition given by SEU is not compatible with the system of the education in the university, because they claim that the main rule of their system is to adopt and build-in eLearning [blending learning] within the learning environment, which conflicts with the education system that requires learners to attend 25% of the modules and the remaining 75% is distributed via eLearning strategies, i.e. in virtual classrooms [review the content via e-classroom e.g. live chat room], electronic forums and digital-materials, e.g. e-books and multimedia³². In this case, this description tends to be asynchronous, i.e. reflects the main rule of the university systems but by its definition is non-synchronous, i.e. reflects the definition they gave (for more information see section 2.4.2). In other words, it means that the definition will be more reliable if it focused on integrating technology utilised asynchronously, which should be facilitated by electronic materials, such as, e-mails and discussion boards between learners and instructors, when they are either on- or off-line.

Another important reason for attempting to define eLearning is to place it within the context of education, teaching and research (Wilson 2012). Most researchers tend to use comprehensive definitions of eLearning for their research projects to determine the framework and theory that they will use. For example, Selvaratnam (2004) used a wide definition, which included the term ‘information technology’ with Internet portals or technology providers. He said “*For the purposes for this research the concept of e-*

³² Studying rules in the university for all subject and field <http://seu.edu.sa/pages/view/57>

learning as a whole will be addressed.” (p.28), while Laurillard (2006) used a different angle for defining eLearning. He said,

“E-learning is defined for our purpose here as the use of any of the new technologies or applications in the service of learning or learner support.”(p.72)

After all, this research aims to utilize the innovative web application, web 2.0, within the classroom environment to enable learners to share, communicate and contribute when they are mainly off-campus. That concurs with the asynchronous way (see section 2.4.2). In this research, the definition of ‘eLearning’ will be used. This is because it will be used in the read/write web application (web 2.0) via blog tool applications. In addition, the asynchronous way is used in this research to introduce blog web services into the learning environment as learning activities via the Internet. Learners will be able to communicate through the Internet at different times and places.

2.4.3 BENEFIT AND DRAWBACK OF ELEARNING IN HIGHER EDUCATION

ELearning is very effective in higher education if it is conducted correctly (Al-Shehri 2010; Horton 2001). It has been argued that eLearning has the advantage of enabling learners and academics to improve their skills and provide channels for communication. The introduction of eLearning offers a chance to innovate the learning system (Weller et al. 2005; Laurillard 2006). Moreover, it is claimed that eLearning has been used very advantageously in HE in terms of enabling learners to become self-direct learners (Al-Shehri 2010). Consonant with that, eLearning applications support individual learning experiences and interaction (Lin et al. 2006), encourage critical thinking, improve communication between learners and instructors, develop cooperative learning and facilitate the learning environment (Alhojailan 2012c; Lin et al. 2006; Tan 2009; Kim 2008; Ocker and Yaverbaum 1999; Nichols 2003).

eLearning provides learners with rich opportunities to connect to appropriate learning experiences, which offers them the opportunity to engage and experience a variety of diverse techniques and thus receive different support for their learning and so develop their understanding (Conole et al. 2006).

There is considerable scope for the use of eLearning in education. Alexander (2001) asserts that there are four main reasons for eLearning initiatives in higher education:

1. To develop the value of learning.
2. To reduce the cost of education
3. To develop accessibility for teaching and training purposes
4. To improve the impact value of education

In addition, Lai (2005) expanded the vision by describing the benefits of eLearning by determining four R's that could assist learners.

1. Relationship - learners' engagements with eLearning tools provide a chance for collaborative activities, e.g. shared websites (blog and Wiki).
2. Reflection - it is required and needed when completing actions via eLearning. Learners are able to develop their reflective skills in terms of academic aptitude and commitment.
3. Resourcefulness - utilizing eLearning provides skills by dealing with different resources, e.g. data based and searching skills. In addition, learners could gain knowledge via experience and communicate with different activities through Internet interactions.
4. Resilience - because of the above three points, there is an opportunity to provide a resilient environment where learners have to attain a high level of interactivity thus developing time management skills.

Similar advantages have been addressed by Rosenberg (2001). He said that lower costs together with flexibility of time makes eLearning efficient. He continues to argue in more detail that time is not restricted for doing tasks via eLearning resources. For example, it is not disrupted by breaks, conversations, class rules, etc. Another point is that the learners are able to move from one task to another. There is a tendency for learners to exceed any information that they already know. The learner, therefore, is free of the negative effects of being in a classroom. Some learners need more time to

achieve some tasks and their successful completion will improve a learner's experience and motivation.

Interestingly, Biggam (2004) had a different vision with regard to the provision of time and learners' experiences. He argued that the process of education becomes more efficient if time is saved and that would appeal to management. He gives as an example of his idea, i.e. reducing the three-year degree to two years. Saving time in education can be bought by the use of eLearning and the courses could be completed in less than the official time. It now becomes possible, for example, to reduce the length of degree courses. Moreover, Biggam makes another point about the provision of experiences within learning environment. He said,

"...(staff bumping into students in the corridor and engaging in jovial banter staff/student nights out, etc.), may add to the educational atmosphere and play an important role in a student's experience at a university."(p.50)

Sole reliance on eLearning can cause learners to miss some very important experiences. This is because of the lack of face-to-face or social interactions between educators and learners, e.g. these interactions could build experiences via dialogue and conversation. This factor should be considered, especially, when eLearning is used in a synchronous way, i.e. learners take modules, act, communicate and receive course work materials only via Internet applications.

Freedom from a fixed place of learning is an obvious feature of eLearning Biggam (2004). He argued that eLearning provided a change for learners in terms of reducing the need to be physically present on campus, if it is not necessary to be there. Rosenberg (2001) agreed with that and used the term eLearning is 24/7. This feature allows information to be immediately updated at any time and to any place that is online. Large numbers of learners, therefore, can obtain access to course content

anywhere and at any time, (ibid). In addition, this feature of eLearning opens up the possibility of lifelong learning for whole communities.

There is agreement that utilizing eLearning within the learning environment improves the quality of education systems by integrating web applications, such as, storyboard and the blackboard portals via the Internet. There is evidence that the learning environment is also enhanced because it gains high performance, skills and efficiency (Al-Kahtan 2006; Blomeyer 2001; Alexander 2001) and it seems that higher education has increased the use of eLearning, especially through the use of the new Internet services (Solomon and Schrum 2007).

There is a need to benefit from the experiences that are encountered when using eLearning applications. Researchers have noticed a marked gap between what is currently perceived as good implementation with what actually occurs in practice (Al-Othman 2009) and what educational institutions do to achieve success (MoHE 2009). Saudi Arabia currently does not have a critical mass of professionals or educators with adequate skills to effectively utilize the tools and positively affect a learner's perceptions and attitudes and more importantly to facilitate the learning process by identifying the factors that could influence the implementation of web 2.0.

Thus, most educational institutions around the world are seeking and trying to integrate eLearning tools and applications, especially those in higher education (Demiray 2010a; Demiray 2010b).

2.4.4 RESEARCH INTO eLEARNING IN SAUDI ARABIA

Saudi Arabia like any other country has faced numerous challenges in higher education socially, economically, demographically and technologically (Al-Shehri 2010; Alkhazim 2003). In order to address some of these challenges, attempts are being made to develop systems that integrate the new technology and train academic staff in its use,

improve scientific research facilities, sponsor many conferences including those that pertain to eLearning and support research (Ministry of Education 2012; Alenezi 2012; Alkhazim 2003). As mentioned in section 2.3, during the last few years, universities have begun to appreciate the importance of integrating eLearning to gain the benefits of an improved system. One of the most important steps, therefore, that universities have sought in recent times is development of Internet services.

Educational plans and strategies have changed during last few years in SA (see section 2.3.1.1). Utilizing eLearning has improved some of these process, e.g. from printed hand-outs to electronically transmitted material (Alenezi 2012). This means that the education process will frequently change in response to different eLearning projects that are embraced by the universities. Researchers have a responsibility to focus on the perception of eLearning tools, i.e. on Internet applications and identify the challenges that these present to the learner (Al-Othman 2009; Al-Shehri 2010). Clarifying the attitudes, knowledge and skills of learners is important for the successful implementation of eLearning. This is a very important issue. ELearning projects could fail because the learner plays a very significant role in eLearning implementation. Al-Shehri (2010) explained the biggest challenges in implementing successful eLearning are the knowledge and skills of the learners and instructors. He argued that eLearning is not a case of integrating technology or web applications; it is principally based on attitude, knowledge and skills. Sumathi (2010) agreed with that. He claimed that understanding the way that technology takes place within the learning process is the main issue for instructors to consider and part of that understanding is the ‘learners’. That made Al-Shehri (2010) emphasise the importance of understanding the potential of eLearning. He said

“...emphasizes the importance of preparing E-learners before embarking on major E-learning programs. We need to know the characteristics, motivations, and potential of E-learners before asking them [learners] to join E-learning programs.”(Al-Shehri 2010, p.149)

He indicated the importance of learners’ perceptions, e.g. attitudes when attempting to apply eLearning applications. Assessing and evaluating the potential of new eLearning applications is essential. For example, Kumar (2009) claimed that utilizing new services in web 2.0, such as, Wiki and Blog (as new eLearning applications) should occur after identifying the benefits of the application’s technology. He said,

“It is more important to first assess their [Internet application] potential for improved educational outcomes” (Kumar 2009, p.308).

Currently, a lack of research exists into the effect of learners’ positive and negative attitudes towards the implementation of eLearning applications via web 2.0 (read/write application) in higher education. Moreover, there is a lack of evidence in the literature concerning the effectiveness of web 2.0 in Saudi Arabia (Al-Ghonaim 2005). The need to increase the beneficial use of online applications via computers is necessary and significant. Researchers have noted a marked gap between what is currently perceived as good integration of computers and what actually occurs in practice in SA (Al-Othman 2009; Al-Shehri 2010; Alebaikan 2010)

2.4.5 THE CURRENT SITUATION OF eLEARNING PRACTICE IN SA

Higher education systems in SA face their own challenges and demands that need to be investigate within its national context. These challenges, with respect to eLearning, include the following:

1. An accurate way to utilize eLearning in SA’s education systems (Al-Shehri 2010).
2. A lack of resources for eLearning, e.g. the loss of benefits of not utilizing web 2.0 in higher education (Al-Shehri 2010; Al-Othman 2009; Alkhazim 2003).

-
3. A lack of knowledge, skills and positive attitudes on behalf of the instructors and learners with regard to eLearning implementation and its potential for higher education (Al-Shehri 2010; CITC 2008; Al-Othman 2009).

The response to some of these challenges has been to develop appropriate systems, provide new technology particularly for scientific research, train academics to utilize eLearning and sponsor many conferences that aim to raise awareness of eLearning by providing a data -based eLearning field (MoHE 2009).

With regard to Internet usage in higher education in SA, the final report, in 2008 of the Communication and Information Technology Commission³³ (www.citc.gov.sa) focused on the use made of the Internet at all levels in Saudi Arabia's education system. It shows that in general the majority of institutions in higher education possess computer facilities. A quarter, however, remained unconnected to the Internet. The report indicated this was because some of these institutions considered the Internet unimportant; therefore, there was no need for it. The most significant reason, however, was associated with a lack of knowledge of how to use the Internet for educational purposes (CITC 2008). Furthermore, they found that the Internet was more widely used by high schools and higher education institutions compared to elementary and secondly schools. The report's most significant finding was that eLearning implementation was not the most popularly used teaching technique in educational institutions, in other words, education institutions made limited use of eLearning strategies. The report, however, stressed that there was a year-by-year increase in awareness of the concept of Internet usage by education institutions. The report found that while forty-six per cent of education institutions possessed a portal website only fifteen per cent provided

³³ Final report of Internet used in education sector

<http://www.citc.gov.sa/arabic/Reportsandstudies/Studies/Documents/IT%20011%20A%20-%20EducationReport2008.pdf>

eLearning services, e.g. WebCT tools. Nevertheless, it did not mention what type of eLearning was provided but indicated that only thirteen institutions used the Internet for education activities, while,

“Surprisingly, the teachers are less than any other members in education institutions for using the Internet” (CITC 2008, p.12)

As indicated in the above paragraph, some efforts have been made by institutions to implement eLearning strategies. One such initiative is to support research projects (MoHE 2009). For example, the use of eLearning strategies by lecturers in higher education is very limited and they tend to be used as supplementary resources for modules (Alebaikan 2010). This may be because of the dearth of research projects into the potential use and benefits of eLearning tools. In addition, the report found that fifty-eight per cent of the universities and institutions did not provide appropriate training programs for eLearning (CITC 2008). A second reason for the paucity of eLearning was an insufficient understanding of the concepts behind some of the new innovations in eLearning strategies, e.g. web 2.0 (Alzahrani and Woollard 2012; Al-Khalifa 2010; Alebaikan 2010; Al-Othman 2009). Moreover, the CITC (2008) report showed that Saudi educational institutions used a smaller proportion of their budget on training programs and technical support than in 2007.

The study of Al-Othman (2009) concurs with the previous report but resulted in different perspectives. She analysed more than sixty PhD thesis and Master’s dissertations in the field of educational technology, i.e. virtual learning, using computer laptops, synchronise and asynchronies of Internet services. She found that the number of studies in education with regard to the usage of Internet applications compared to other subjects was very low. Furthermore, she strongly recommended that higher education institutions should pay closer attention to eLearning research including its

strategies, particularly with respect to Internet applications. In addition, she suggested an increased focus on research with regard to utilizing web 2.0 (read/write web) in higher education.

The result of the interpretive study of Al-Shehri (2010) with thirty decision makers involved in eLearning units and organisations in Saudi Arabia (senior academicians and consultants) indicated that Saudi Arabia occupies an advanced position in terms of implementing eLearning projects and plans. The study strongly suggested that a major inquiry be undertaken into the perception of eLearning with respect to the skills, understanding, knowledge and the motivation needed to achieve successful implementation of eLearning. Such an inquiry is necessary avoid a fiasco.

Research by other Saudi universities showed that there was a serious desire to integrate eLearning tools and services by providing commercial Learning Management Systems³⁴, such as, Blackboard and WebCT to encourage eLearning to be utilized (Alebaikan 2010). As an illustration, universities have begun to have some of their objectives recognised and integrated into eLearning strategies. Some universities have opened eLearning gates by using applications that service eLearning systems that provide tools to help students and staff to improve their learning and skills. Moreover, these gates have the potential to be used in eLearning courses in the university (<http://www.elf.gov.sa/>).

³⁴ Few years ago, e.g. King Fahad University (KFUPM), King Saudi University (KSU), King Abdulaziz University (KAU) and King Khalid University (KKU) established an eLearning centre by providing an e-Portal to administer and assist an interactive web-based supplementary. It included e-services, academic support, training provided and an e-Library. KFUPM: Information technology centre ITC: <http://www.kfupm.edu.sa/centers/itc/default.aspx>

KSU: Deanship of Elearning and Distance learning: <http://ksu.edu.sa/sites/KSUArabic/Deanships/Elearn/Pages/default.aspx>

KAU: Deanship of Elearning and Distance learning http://elearning.kau.edu.sa/Default.aspx?Site_ID=214&Lng=EN

KKU: Deanship of eLearning <http://elearning.kku.edu.sa/>

Despite the importance of learners' perceptions, the empirical evidence that supports eLearning adoption for the new eLearning application web 2.0 is rare. This research, therefore, aims to determine the factors that influence (positively and negatively) the implementation of web 2.0 and determine learners' attitudes and perceptions toward it.

2.5 CONCLUSION

The first part of this chapter described Saudi Arabia's higher education system. It presented an overview of the system's evolution, the challenges, the issues that are raised for improvement and their possible solutions. In addition, it makes suggestions for further developments in higher education policy. The chapter discussed the cultural background of the Saudi education system. It presented a chronological overview of the plan for massive improvements in eLearning strategies and its introduction into higher education in Saudi Arabia.

The second part of this chapter discussed the concepts and features of eLearning that make universities in Saudi Arabia demand the presence of huge projects into eLearning in higher education. It showed that the goal of implementing eLearning is obtainable if strategies are utilized as indicated by the studies that have been conducted into this area in Saudi Arabia. Saudi's universities demand the integration of eLearning because it intersects with the advantages of eLearning applications.

A lack of literature surrounds the implementation of eLearning in higher education, particularly with respect to determining the characteristics of web 2.0 [read/write] with regard to identifying learners' attitudes, skills and knowledge as well as factors that could influence the integration of read/write web 2.0 applications (see sections 2.4.4 and 2.4.5).

There is a significant lack of knowledge in the area of eLearning adaptation via web 2.0 in higher education (Demiray 2010a; Conole et al. 2006), especially in Saudi Arabian

universities (Al-Othman 2009; Al-Shehri 2010; Al-Khalifa 2010; Alebaikan 2010). The number of investigations with regard to the usage of Internet applications compared to other subject areas relevant to educational technology has been mentioned (elsewhere) as being very low. Conducting this research in the field of eLearning is a consequence of this project's plan (see sections 2.3.1.2, 2.3.1.3 and,2.4.4) . The inquiry aims to gain an in-depth understanding of learners' perceptions and attitudes toward web 2.0 via its blog tools in order to maximise the benefits of using this technology.

The next chapter will provide a detailed description of the new Internet technology, web 2.0 [read/write web]. It will discuss the blog's features and drawbacks, tools and its other characteristics by providing an analysis of recent studies in this area.

3 WEB 2.0 [Read/Write web] IN HIGHER EDUCATION

3.1 INTRODUCTION

The previous chapter outlined the education system of Saudi Arabia including the current plans for improvements to higher education (HE). Moreover, it discussed the existing substantial improvements that have been made due eLearning projects. The previous chapter also identified the deficiencies that were made apparent by desire to introduce eLearning into the Saudi HE system.

The main aim of this chapter is to describe in more detail the new read/write websites [web 2.0]. The description will include their features, drawbacks and specifications for use in higher education and the perception of the learners. This chapter introduces the web service's blogs that were used during this research. It describes their main features and the results of the recent research that utilized them. The chapter continues by describing the purposes of this inquiry, its framework, methodology and results of learners' perceptions of the blogs' tools. One of the objectives of this study is to discover ways to use blogs in higher education by identifying their potential. This requires an understanding of the way to adapt blogs for learning in H E.

This chapter is divided into two main parts. The first part describes the read/write web in education. It includes details about the attractive features of the read/write web application that encourage universities to embrace it. In order to determine these features the researcher had to gain an in-depth understanding of the strengths and the weaknesses of these tools when they are used in HE.

The second part of this chapter discusses blog tool specifications. It includes the different techniques that have been used to adapt blogs within the learning environment. This is followed by a detailed description of recent studies carried out into blogs in the field of education together with their conclusions.

Finally, the chapter attempts to develop the research plan, its instruments and context by using specific portions abstracted from the literature review on higher education systems in Saudi Arabia, the read/write web, blog usage and the techniques for their use as well as learning theories.

3.2 WEB 2.0, FEATURES AND CHANGE THE ABILITY

Higher education systems seek to take advantage of eLearning (see section 2.3.1.3). Using the Internet in education is not something new. From the learners' perspectives, it provides rich opportunities to connect and engage with learning using a variety of techniques. These techniques offer different forms of support for their learning (Conole et al. 2006). There remains, however, further scope for the use of technology by learners in HE education. With regard to the factors that influence the adaptation of Internet technology within learning environments, Conole et al. (2006) have identified several that are contained in their report of "JISC LXP"³⁵ entitled *Student Experience of Technology*³⁶. The report aimed to describe learners' personal experiences and learning contexts when they integrate technology into their learning. Three methods of data collection were used to cover two main phases. During the first phase, data was collected to achieve a wide contextual review for use of the technology. It included a board spectrum of learners. The second phase involved in-depth overviews of individual participants. Data was collected using the following three techniques:

1. Data gathered through audio logs,
2. Interviews and,

³⁵ JISC is a "Regional Support Centre across the UK, it assists higher and further education colleges and skills providers with information, advice and guidance in the strategic use of technologies to achieve their organizations goals. They offer leadership and support to UK educational organizations at a local, national and international level. They provide resources; knowledge and expertise that colleges and universities would struggle to source individually. In addition, they keep up to date with developments in information and digital technology to help the UK education community make the investment decisions that ensure they deliver the learner experience their students demand"

Official website: <http://www.jisc.ac.uk/>

³⁶ Full report can be read in: <http://labspace.open.ac.uk/file.php/1/kmap/1176712833/references/LXP%20project%20final%20report%20dec%202006.pdf>

3. A questionnaire (online survey).

Significantly the authors claimed that their reasons for using a combination of methods allowed them to collect rich empirical data that enabled them to effect an interpretation from the perspectives of different individuals and groups (Conole et al. 2006, pp.10-11). The online questionnaire aimed to gain a wider understanding of learners' experiences and their perspectives via specific information regarding the technologies they used including web applications. The interviews with the audio logs focused on gathering individual perspectives due to the use of these technologies.

This report focused on the 'owned technologies' that the learners used i.e. mobile phones, laptops computers, personal digital assistants, web applications and hardware, e.g. USB's. The main findings showed that web applications are popularly used and are 'first port of call' for learners. Learners used technology extensively to communicate with peers and instructors by utilising a diversity of tools, such as, chats, Skype and emails. With respect to the read/write web, strong evidence contained in the report showed that this application is appropriate for meeting their personal needs. The main results of the report are:

1. Pervasive and integrated: Learners use technology to discover control, manage and present content. They aim to find new ways to support their studies to complete their tasks. Meeting individual needs are the main priorities for learners, for example, the ability to provide tools with more flexibility at any time or place. This is reflected by evidence that showed learners mixing and matching some Internet applications, i.e. switching between sites, tools, content and media.
2. Personalised: Learners prefer technologies that meet their learning needs. Learning becomes interactive and multifaceted when they use technology, such as, eBooks and computers to meet with their learning needs.
3. Socially: Learners engage in a diverse network of communities of peers where they practice, exchange resources, share ideas, ask for assistance and so on.

-
4. Interactive: the value of content changed with respect to learners' perceptions. Many interactive resources and materials are free to download. Content on the Internet is easily edited by 'copying and pasting' and so is "fixed." Therefore, web content is seen as a starting point with which to interact. In addition, learners expect online materials to be of high quality that can be viewed any at time and place. Content is expected to be easily editable via 'cut and paste' and amenable to remixing.
 5. Changing skills: learners developed new skills and evaluation strategies, e.g. restricting, searching, validating critical conclusions, especially when negotiating content from diverse sources. In addition, the findings of learners' became more sophisticated. Conole et al. (2006) said,

"Students are becoming sophisticated at finding and managing hybrid forms of information drawn from a multitude of traditional (text books), existing (Google search engines) and emerging (blogs, Wikipedia) sources."(Ibid p.6)
 6. Transferability: Learners tend to believe they obtain the same degree of recreation and learning from the Web. There is evidence that web activities are transferable to other aspects of their lives, e.g. MSN chats. Nevertheless, learners perceive that the PC is an important learning tool that enables them access lots of resources and tools.
 7. Time: Connecting via different types of applications and tools, such as, email, mobile phones and Skype, allows learners to be synchronised and connected via the Internet.
 8. Changing working patterns: There is a greater integration of new tools as new practices emerge. Learners are changing the way they work together. They utilize and produce knowledge and there is a sense that integrating these new tools would shift the basic skills from the lower to the upper level of Bloom's Taxonomy (more information see chapter 4, section 4.4.1). Therefore, they need to integrate complex technology to "*make sense of their complex technologically enriched learning environment*" (Ibid 2006).

The report found that the learners in higher education prefer the services provided through the web rather than any other technology, i.e. Board Story.

“The Web is unequivocally the first port of call for students - with extensive examples across the study of how students are using search engines, dedicated subject-specific sites and journals.” (Conole et al. 2006, p.5)

Learners adapt technology to their learning environment, especially web applications. It enables them to obtain what is needed to complete their tasks. Learners, however, are critically aware of the ‘pros and cons’ when using different technologies, i.e. they prefer technologies from which they can gain benefit, not for the sake of technology itself. Learners do not see technology as something unique but as another tool that supports and enhances their learning. Further, information and resources are expected to be up to date.

Learners view technology, including web services, as tools that support and assist their learning in order to reach their goals. Moreover, technology itself is not completely meaningful. A very important question is, “How to take advantage of technology?” The answer to this question explains why learners are attracted to and prefer web services rather than other types of technology. The report indicated that learners felt adapting technologies was convenient and “*integral to their learning*” (Conole et al. 2006, p.6). In addition, learners found that technology opened up diverse possibilities for communication and interaction. Furthermore, it enabled them to keep up to date with information and improve their IT skills.

Learners in this report stated that they used technology to share materials with other students and with their lecturers, “*hinting at a move toward more of a collaborative approach in their strategy for learning*”(Conole et al. 2006, p.75). By the same token Baltaci-Goktalay and Ozdilek (2010), Solomon and Schrum (2007) and Lin et al. (2006) concurred that sharing information, materials and experiences is one of the main advantages of Internet services, i.e. web 2.0. They all agreed that technologies, i.e. the Internet are central to how learners organise their learning. This is

because technologies provide an environment where the learners are able to interact and communicate at home and university and life-long learning becoming manageable.

The main reasons why learners prefer to use technology that is related to the Web. The reasons are it is easy to use, it reacts fast, it is effective in meeting a learner's needs, it engages learners with different tools enabling them to do many things at the same and it is accessible. Al-Shehri (2010) agrees with these reasons when he said,

“Internet and Web technology can assist in transforming education in the 21st century but there is always a risk of putting technology before education.”(p.149)

He means that technology should to be adapted so it becomes compatible with learning purposes, e.g. improving the free sharing of knowledge between learners through web tools to raise experiences and skills (Kang et al. 2011).

In terms of utilizing technologies, it is not a matter of just applying them in learning environments to gain benefit for learners. This has been noticed by Nichols (2003). He claimed that the ‘*How*’ of using technology in education is more important than ‘*which*’ technology is used. This is because ‘use’ itself is not sufficient to ensure its benefits (Garrison & Anderson 2003, p.20). This opinion is similar to that of Ebner's (2007) conclusions. Ebner emphasised the need to change one's concepts, in general terms, due the new read/write web. This is because an application presents a new didactical concept. Ebner insisted by saying, “*The biggest fault would be to use web 2.0 [i.e. read/write web] for a traditional lecturer*” (p.4). This means that utilizing web 2.0 the same way as web 1.0 is very erroneous.

By same principle and identical with the conclusions of the previous report (see the report of Conole with his colleagues 2006), learners were aware of the ‘pros and cons’ of the technologies and how to utilize them within their learning environments rather than taking new technologies or web innovations. The term “*How*”

remains the important principle. Technology is neutral and could be applied to almost all pedagogy theory, e.g. constructivism or collaborative learning, improving communication and so on (Nichols 2003, p.3). ELearning, i.e. web services usually include numerous web tools that could be applied to numerous contexts. Therefore, many techniques could be used that might associate web technology with the knowledge that learners need to gain and adapt to their learning needs. The following sections will describe these innovative Internet services and their techniques.

3.2.1 THE NEW INNOVATIVE INTERNET APPLICATION - READ/WRITE WEB [WEB 2.0]

The web has a large number of tools and services that are used for communication. The read/write web, (often call web 2.0), has become synonymous with the innovation of web services. Sometimes, researchers call it the ‘social network’ or ‘social websites technologies’ (Hughes and Consultancy 2009; Alexander 2008). O’Reilly coined the term web 2.0 in 2005 (Mason and Rennie 2008). In this research, the researcher often uses the term read/write web or web 2.0.

The read/write web is a new concept that makes the website a platform for sharing information, for users to design and provide content. The website allows users to add and post comments and interact via different means, such as, multimedia, text and audio (for example, Facebook, blogs, and Wiki) while the previous web [web 1.0] only “*displayed information*” (Solomon and Schrum 2007, p.54). Visitors were only able to read and interact by sending emails to the website’s customer service.

The new read/write web service focuses mainly on its usability for its users. It links people rather than focusing on its basic platform, e.g. the web’s services [web 1.0] used to be structured; users could just read whereas the users of read/write web [web 2.0] can read and write. In principle users are now able to add value and opinions, which

means being more interactive and engaging. Therefore, the authors of the application gave it the term ‘write’ because of the ability of contribute after reading (Richards 2007).

The read/write web delivers users’ experiences and activities by a variety of discrete applications and services, which enable users to easily communicate ‘socially’ (Craig 2007). In addition, the read/write web focuses on the extensive services provided by a variety of applications, e.g. content posting (blogs), video broadcasting (Justin.tv and recently YouTube), social networking (Facebook or Twitter) and sharing media (Justin), etc. With these services, users have more authority to contribute or add valuable information, give opinions and share thoughts. Furthermore, users are now able to read and add value or even provide new content rather than just read it (Anderson 2007) Table 1 (below) shows the variation between read web or ‘web 1.0’ and read/write web or ‘web 2.0’.

Web 1.0	Read/write web, or web 2.0
Double-click	Google AdSense
Ofoto	Flicker
Akamai	BitTorrent
Britannica online	Wikipedia
Personal website	Blogging
Evite	Upcoming.org
Domain name speculation	Search engine optimization
Page views	Cost per click
Screen scraping	Web services
Publishing	Participating
Content management systems	wiki
Directories (taxonomy)	Tagging (folksonomy)
Strictness	Syndication

Table 1: Examples of the main differences between web 1.0³⁷ and web 2.0

There is, however, no agreement upon a definition for read/write web services. It is known by some researchers as the ‘social web’ or ‘social software’ or even web 2.0. In

³⁷ Since this research started, these websites in the list of web 1.0 (table 1) used to provide their services and tools based on the old concept of web, which was based on reading the content then the user was able to communicate with the website’s support in regard to do/use their facilities or follow a long process of registration. In the final stages of the writing up this research (Sep/Dec 2012), these websites re-designed these facilities to follow the new concepts of web 2.0, e.g. Evite was a present within the concepts of web 1.0 website, which by now enables users to create their invitation/gift cards after a few simple steps. They converted into the same concept of web 2.0. <http://new.evite.com/#home>.

addition, some researchers defined it as “*second generation*” (McLoughlin and Lee 2007, p.665). Most web providers only require registration and processing that involves a few steps in order to access the facilities and services of web 2.0 through a web browser, such as, Blogging, Wiki, and Amazon so,

“encouraging ... user participation in the sharing, consumption and generation of content, including through remixing and repurposing; and also amenable to developments in functionality consistent with user demand – users can and do, in effect, contribute to service and software design.” (Hughes and Consultancy 2009, p.15)

Moving these concepts into the education field, learners accessing a read/write web will logically and most likely exercise their new empowerment and contribute when utilizing these tools. Such actions are consistent with the software and reflect the reality of the read/write web. By the same token, Solomon and Schrum (2007) believe that integrating the read/write web will require that a new concept of integration to be developed. Special attention has been given in recent years to the integration of new applications of the read/write web because it allows a new space for development, interaction and an improvement in learners’ skills by sharing web services to insert, manage and interact via the web application (Ibid). Research, in this area, attempts to address the outcomes of learners’ experiences and perceptions of the read/write web and aims to provide a practical framework for them (i.e. perceptions) in higher education as well as for researchers and educators. The next few sections discuss the new technology in more detail in education.

3.2.2 READ/WRITE WEB IN EDUCATION

3.2.2.1 Internet application

The read/write web has become an attractive application for many universities and researchers (Alhojailan 2012c; Popescu 2010; Wang et al. 2008; Instone 2005). It has gained significant attention from universities, researchers, organisations and businesses

(Schiano et al. 2004). In addition, web technology has the advantage of enabling learners and academics to improve their skills and communicate through the web, which presents a chance to innovate learning systems (Weller et al. 2005). During the last few years, the read/write web has rapidly opened the way for utilization, e.g. blogs for contributing content and Wiki for sharing and spreading knowledge (Franklin and Harmelen 2007; Tan 2009; Anderson 2007).

The second generation of web-based services, such as, Facebook, Blogging, Flicker and Twitter, etc., provide and emphasize online facilities in four main ways:

1. Collaboration
2. Sharing (Hughes and Consultancy 2009; J.W.S. Sim and Hew 2010)
3. Communication
4. Participation (Hughes and Consultancy 2009).

More particularly, Baltaci-Goktalay and Ozdilek (2010) categorized five main strategies that could affect ways of interacting when using the read/write web application:

1. Sharing content, where the learners are able to share thoughts, ideas and experiences via online,
2. Developing content via groups of learners,
3. “For large sets of users contribute content” (Ibid p.4738),
4. Providing a content trend that invites contributions (Howe 2006 in Baltaci Goktalay and Ozdilek 2010) and,
5. The ability to create a virtual world-learning environment.

The fifth strategy, mentioned above, has recently been studied further. It has been found that learners express their thoughts and experiences to their instructors using posts and comments about course materials via the read/write web (Maag 2005).

The above five categories focus on contributing content, whether it is structured or not via individual or group activities. It gives an insight into the range of activities that

could be achieved in a learning environment with read/write web services. Collis (2009) has discussed the five categories in greater detail with regard to the potential gains made by using the read/write web in higher education. In terms of contributing knowledge, learners are able to present their ideas via content for sharing and so contribute to the accumulation of learning resources. Web 2.0 catalyses community development because sets of individuals seek to provide content. This means that users work as a part of a community to improve content. Here, contributions with learning activities intersect (Ibid p.10).

3.2.2.2 Web based tools

From another perspective, the read/write web may be viewed with respect to its growing collection of new web-based tools or services rather than installing or designing software. This view may have arisen because the browsers used to access the many tools along with their services are free. The latter provides an easy way to have options and space to acquire an account and become active. It also means that instructors and learners without a high skill level can use these learning environments. This makes the nature for which the web is used different. Web facilities are now more social in terms of users-sharing personal materials. They assure self-expression, e.g. sites for sharing information via websites, such as, Wiki and sharing ideas as in blogs, which allow one to input multimedia and texts. This allows many users to participate, to share and become active in a single online-place (Solomon and Schrum 2007).

In terms of self-expression, Chen and Bonk (2008) emphasize that information, sharing ideas and thoughts consequently enable learners to develop their thoughts due their self-evaluation of a task. This is termed 'personal knowledge'. Likewise, blogs would be helpful for instructors in terms of providing a clearer record of learners' interactivities and contributions. In addition, thinking skills may be further developed

as different visions from diverse individuals may be expressed in blogs so enabling learners to become more critical (Chen and Bonk 2008, p.46).

A large amount of information will become available because of the large number of users that participate. The value of some websites is based on how many activities are provided by its users, such as, blogger.com, YouTube.com, Facebook.com and Flickr.com.

In addition, web sites have changed because of the recent concepts and the features that new service providers have introduced. The skills required to use them have also changed, due to the integration of web services with higher education. This change needs to be understood if one is to adapt successfully. It is important to measure the impact of the website on learners, i.e. whether it is beneficial or not is very essential even if they are familiar or able to use it easily for social purposes. Using the read/write web for social purposes is not the same as using it for education. This is despite the fact that education systems are able to implement and provide services and learners are able to present and transfer information and have the required ability and understanding to engage successfully with the read/write web.

Popescu (2010) claims that research into read/write web implementation in education is growing but many questions remain unanswered and need to be explored, e.g. what is the challenge of the innovation, i.e. the read/write web in which knowledge is generated and assimilated within the academy. His study aimed to address the perspectives of the learners about these new Internet innovations for educational purposes. In addition, he aimed to investigate learners' attitudes toward blog tools. The research focused on what was their perception of blog services as interactive educational environments. Popescu's work concurred with the Hughes and Consultancy Report (2009). This report aimed to identify and explore the

key consequential issues for higher education participants. The inquiry, which concerned read/write web usage, focused on the impact of the newest technologies and took these to be the read/write web application. The majority of the participants were young learners. Furthermore, the inquiry considered the expectations of HE by exploring the nature and purpose of the learners' use of the read/write web. It concluded that HE institutions are responsible for providing the skills that are needed to deal with the read/write web. The report indicated,

“Higher education has a key role in helping students refine, extend and articulate the diverse range of skills they have developed through their experience of web 2.0 technologies. It not only can but should fulfill this role and it should do so through a partnership with students to develop approaches to learning and teaching.”(p.9)

The report emphasized that universities should become more proactive in providing and developing learners' experiences and skills and this should intersect with knowledge about their expectations. The report gives a few examples of the use for most of the new technologies involved with the read/write web and the way they are integrated into the learning environment, e.g. blogs come top of the list. Blogs were utilized as an open website between instructors and learners as a peer group for comments and communication (Hughes and Consultancy 2009).

Read/write web services provide a big range of interactions, resources for information and a variety of ways to communicate. Furthermore, in the report by an independent committee of inquiry into the impact on higher education of learners' widespread use of read/write web technologies, Hughes and Consultancy (2009) found,

“Using read/write web technologies leads to development of a new sense of communities of interest and networks and also of a clear notion of boundaries in web space, for example, personal space (messages), group space (social networking sites, such as, Facebook) and publishing space (blogs and social media sites such as YouTube).”(p.6)

Learners have the opportunity to develop a new sense of instructiveness and communication due to the nature of these tools. Thus, there is a chance to develop different skill areas of practice, e.g. working interactively in groups through new concepts of communication via those websites (Hughes and Consultancy 2009, pp.6–9). It means that these web sites could provide the opportunity for diverse interactions to share, communicate and contribute. The researchers concluded, however, that the limitations of read/write web services could be developed to support learning and teaching in higher education by building and steering the learners' perceived advantages/disadvantages of the read/write web, e.g. collaboration or critical behaviour to information (Hughes and Consultancy 2009). In addition, this report went beyond investigating improvements in practice in learning environments. It sought to improve the role of education institutions.

In addition, the read/write web makes it easy for individuals to engage and join in all its services. In the specific context of learning, it enhances support and encourages individuals to exchange knowledge, share experiences and learning. In this research, the blog was found to be one of the most popular read/write web services investigated in higher education, being especially used to develop community knowledge (Hughes and Consultancy 2009; Franklin and Harmelen 2007; Hossain and Aydin 2010; Oravec 2002).

This part of the chapter has presented an overview of the read/write web, i.e. web 2.0. It highlighted new concepts of web design, features and opportunities for improvement within the learning environment in HE. It found that learners in higher education prefer to use www (Internet) applications rather than other technology within their learning environment. The main issue for the utilization of web applications is their 'pros and cons'. Educators should consider the benefits that learners and teachers will gain by

using web applications. Thus, the most important and significant issues of the read/write web are: how/what is the best way to use it within learning environments rather than simply resorting to adapting it. It is confirmed that changing the concepts of the read/write web strongly necessitates altering the way it is receive within the learning environment.

The read/write web is a new concept that forces skills to change, however, that channels the learning process into specific skill areas, i.e. improvements in communication, sharing information, enhancing interaction between learners and instructors, simplicity of action and improved self-contributions.

The following sections describe the characteristics blog tools. It includes different strategies for utilizing blog tools in education. In addition, recent research and reports that apply to blogs is discussed. The section ends by investigating the use of blog tools in classrooms followed by conclusions.

3.3 BLOGS: FEATURES AND DRAWBACKS, WITHIN LEARNING INVESTIGATION

The previous section stated the need and described the importance of further research into web 2.0 implementation in higher education. This study acknowledges the importance of using technology in education as explained in the previous section. This study aims to give a clear account of the use of read/write web services via blogs by learners in HE. Furthermore, it is important to review the characteristics of the blog to include its features, strengths, weaknesses and use, which will assist this research to design an instrument for collecting the data. The second part presents and analyses previous studies into blogs that are used in education. In addition, this part enabled the researcher to understand better how to design the tools for gathering the research data and plan the empirical work.

3.3.1 CHARACTERISTICS OF BLOGS, POTENTIALS AND DRAWBACKS

The word weblog is composed of two parts: web and log joining to form weblog. It is often commonly referred to simply as a blog (Huette 2006; Chen and Bonk 2008). Recently, educators have adapted the term and begun implementing them as a new service to deliver education. These adapted blogs are often called 'Edu-blogs' or simply 'blogs' (Tan 2009). Huette (2006) identified five basic components of a blog on a website. A blog entry typically consists of the following (see Figure 2):

- The main title or headline of the post.
- The body - the main content of the posted article.
- Comments – the comments added by users.
- Permalink - the URL of the full individual article.
- Categories (or Tags) – which means the new subject entry.
- Trackback - links to other sites that refer to the entry.
- RSS aggregator that enables the reader to obtain updates

Blogs have increased pedagogical power more than other tool over the last few years (W. J. Lin et al. 2006; Franklin et al. 2007). This is very beneficial for education if they are well adapted. Blog tools have appreciably reduced the difficulties previously experienced by instructors when dealing with technology.



Figure 2: Shot screen for the main basic web blog tools (Tan 2009)

The process of engagement with technology that uses blog tools is very similar to that encountered with the older generation of internet services (more information is contained in section 3.2.1). This is because the integration and utilization of any of read/write web does not require the use of any programming language or knowledge of a web-designed programme. Now any instructor is able to practice with blog tools. As Huette (2006 p.4) thought,

“The easiest system to get started with is the developer-hosted system. Once you pick your hosting system there are usually four simple steps to complete.”(p.6)

As the use of blogs tools gradually increased, their design, structure and purpose became more varied to the point that one can now create and use blogs for whatever purpose without any real limitations. This maturation process attracted further use and now bloggers can connect their sites with others enabling linking and cross-linking. Bloggers often provide one another with information and resources online using high-level technology and specialist tools (audio and visual). Nardi et al. (2004) explain that blogs are used widely in journals and popular media and have been included in political campaigns, news organizations, businesses and classrooms. It is clear that the proliferation of blogs is because of their simplicity and user friendliness, allowing simple online posting to be used as sources of education (Chan 2007).

3.3.1.1 Blog studies in education

Recent research suggests that weblogs have huge potential and are a powerful new e-learning tool, especially in education systems (Kim 2008; Schiano et al. 2004; Lin et al. 2006). In addition, Ray (2006) claims that the weblog is a system that resides on the Internet and has slightly different features from any other application. This is because its posts and comments could be created simply by visitors or registered users. Hughes and Consultancy (2009) described blog as,

"An Internet-based journal or diary in which a user can post text and digital material while others can comment."(p.15)

The use of weblogs is advocated for many reasons. These reasons include the use of blogs for the improvement of learning experiences and to support both social and individual learning (Lin et al. 2006). Ocker and Yaverbaum (2001) extend the list to include the encouragement of structured thinking and revision. Huffaker (2004) added the possibilities for transformation to meaningful knowledge from learned information, sharing information between learners and exploring the potential of weblogs with the aim of gaining more understanding and promoting a better learning environment within the classroom. To date, many researchers consider weblogs suitable for a variety of purposes (Kim 2008) but many educators have failed to address the issues that make its implementation so successful at different levels. This issue will be discussed in section 3.3.3.

An aim of this research is to identify the potential of blog tools within higher education learning environments by using a focussed in-depth investigation to reveal perceptions of learners with respect to blog implementation. In order to achieve this aim the researcher will describe, in this part of the thesis, the characteristics of blogs as demonstrated by recent studies in the field.

In the following paragraph, the researcher will discuss and present an analysis of a few empirical studies into blog tools that were adapted for higher education. The discussion and analysis of these studies will be in terms of their research contexts, the methods used to select the research sample, data collection, analysis of the data and the research findings. Such an analysis assists in understanding the design of blogs, including its features and limitations. By addressing these issues in terms of their management and logistics, the researcher gained a better understanding of the perception of learners in different situations and the variables that influence the implementation of blogs.

3.3.1.1.1 Blog definition

Researchers cannot agree upon a clear definition. Webster's Online Dictionary³⁸ provides a definition including an explanation but many writers would claim that it not ideal. To define something, the best way, is to look at an entity's common properties, including its appearance and form. Several features are unique to blogs, which distinguishes them from their own websites and communication boards. This section will discuss these features based upon a selection of current blog studies.

The term 'blog' has several definitions. Nevertheless, most of these definitions rely upon the way a blog is utilized. Lipton (2002) describes a blog as a website managed by time. O'Shea (2003) defined a blog as commonly updated information via an online website while (Loving et al. 2007) viewed them as Internet-based data disseminating service tools. In the end, a blog could be seen as a website that provides a space to present digital content, e.g. texts, videos and audios. A blog includes three basic features: title, link and description (Chan 2007).

Two indication genre studies are those of Miller & Shepherd (2004) "*Bloggng as Social Action: A Genre Analysis of the Weblog*" and Herring et al. (2004) "*Bridging the Gap: A Genre Analysis of Weblogs*." Both of these studies tried to define generic rules for blogs based on their rhetorical outline and features. Miller and Shepherd's article addresses little rhetorical argument concerning blogs but includes the public/personal issue, exigency, forms and features. The article of Herring et al. (2004) considered another aspect, which looked at the blog's nature, such as, its aims, structural characteristics and temporal measures in order to embed the article in earlier research on blogs and subsequently analyze the results of these studies. Miller & Shepherd

³⁸ <http://www.merriam-webster.com/dictionary/blog> a Web site that contains an online personal journal with reflections, comments and often hyperlinks provided by the writer; also the contents of such a site.

(2004) insist that content is very important to bloggers (generally) because it constitutes a major component of a blog. This work agrees with that of Blood (2000) who stated and that the content of a blog makes a noticeable transfer from link-driven to own personal interpretation. She further classified blogs into two different styles. The first style arises when a blog is based on its content. In this style, the bloggers are principally acting as editors and administrators of content. The second style arises when the blog becomes more personal since bloggers start to present self-expression. It seems, however, that blog tools have a variety of uses and are very easy to adapt (Blood 2000; Downes 2004; Felix 2007; Wang and Hsua 2008; Tan et al. 2011).

Historically, the design of blogs has been affected by the changing nature of internet applications or tools. The temporal evolution of the blog started with the standard web page then to online journals and finally to weblogs (Herring et al. 2004, p.10). In addition, according to Herring et al. (2004), blog features can be used to develop an asynchronous e-learning style (more information see section 2.4.2.1). They mention that an asynchronous style provides text-based interaction and by same token Ferdig and Trammell (2004) said, “*Research suggests that many of these advantages [of blog] can also be afforded by asynchronous discussion forums [dialog process]*”(p.13). Updated information (usually) makes the authors (instructors) and the readers (learners) within their roles in blogs highly asymmetrical. They form the content that could be utilized in blogs only as text let alone images and multimedia with hyperlinks; still the vision of the blog reflects their characteristics in terms of the ways they are used and demonstrates the association between the author and the audience, i.e. in the education context, between teachers and learners (Ibid).

In order to understand fully blog perspectives in terms of higher education, it is important to trace the ways by which they were first set-up and introduced into the

learning environment. Blogs in education are tempting because of their simplicity for both instructors and learners. The software is not difficult to use and is connected to services that are provided by websites. This structure allows bloggers to become interactive and able to communicate.

3.3.1.1.2 Blog in classroom

In order to try to grasp blogs nearly endless uses, researchers have begun making lists and catalogues that define their possible use in the classroom. Stephen Downes (2004), in his article "*Educational Blogging*"³⁹ refers to a blog posting by Henry Farrell in which he identifies five main uses for blogs in classrooms. Subsequent to Farrell's list, Downes said, "*First, instructors use blogs to replace the standard class Web page*" (p.18). Farrell also remarks on how websites often include a "*few static pieces of information - class times and rules, links to the syllabus, etc. - and a few dynamic - cancellation of office hours, announcements of essay topics and the like*" (*Crooked Timber*⁴⁰). Farrell states that blogs also offer these two forms of information but in a simple updatable arrangement.

Continuing to follow Farrell's list, Downes makes clear the second important use of blogs in education, i.e. that instructors could start to content the blog with internet subjects related to modules. Therefore, the blog become part of the module. Here the course blog would function similar to a filter blog, where the educator takes action as a web editor offering content that is linked to other websites for benefit of the learner.

A third way to utilize a blog, according to Farrell, is "organizing in-class discussion" by using the educators' areas as a place to jump-start in-class discussions by asking

³⁹ <http://net.educause.edu/ir/library/pdf/ERM0450.pdf>

⁴⁰ <http://crookedtimber.org/2003/09/15/the-street-finds-its-own-use-for-things/>

learners either to comment/post before class or to follow-up by posting after class discussions. Some instructors use blog tools as the forum for class discussion, requiring learners to post original responses as well as commenting upon their peers' postings. As will be explained later in this study, many instructors who use blogs in university courses cite fostering class discussion and interaction as one of the main goals for using blogs.

Fourth on Farrell's list of blog uses are intensive seminars. He claims that learners are able to provide summaries of any reading task. When instructors ask learners to complete summaries on the blog, they are giving learners a chance to engage further, deal with the content of the course and have an easily accessible record of the learner's work.

Finally, Farrell comments on one of the ways by which blog usage is changing. Instructors that utilize blogs in their classrooms have several opportunities how they will use blog tools pedagogically. Most instructors use one or a mixture of the following set ups:

1. Blogs are only for the instructor to disseminate information, which flows mostly in one direction only.
2. Blogs are for both the instructor and the learners, information is shared and the information flows in two directions.
3. Blogs are for each learner each posting his/her own with the option of commenting upon the blogs of other learners (depends on the instructor's aims)
4. Blogs are for sharing, i.e. a group of learners share blog content. It is essential to note that when instructors have set up a learner's individual blog, they regularly link from either a website or blog.

The amount to which educationalist support and encourage or require contact with the blog tools' space varies. Contact may range from obliged personal blogs with no co-operation and interaction to very public blog spaces in which learners, as well as those from other subject areas or the general community are encouraged (sometimes required

for a grade) to comment. Farrell's final use alludes to the fact that many educators now require their learners to establish individual blogs. This requirement might produce a shift from their former use that relied narrowly on instructor production, such as, Farrell's first use of blogs for restoring class's websites. Furthermore, Farrell's list of five aims for integrating blogs in education represent a first stab at researching this new electronic tool. The list it does not completely capture the many social, practical and eLearning uses to which blogs are being put and used in the classroom environment.

One of the aims of this study is to attempt to expand the current research as well as defining and cataloguing all the ways in which learners in higher education perceive blogs as an effective electronic tool. Huette (2006) gives some general advice, particularly to instructors how to use blogs and gives an idea of how to integrate and employ their tools in the classroom:

1. To reflect the instructors' experiences,
2. To keep a log of instructors' thinking experiences,
3. To write a description of specific teaching units,
4. To describe what and did not work in the classroom,
5. To provide some teaching tips for other instructors,
6. To write about something you learned from other instructors,
7. To share ideas for teaching activities to use in classroom and,
8. To explore important teaching and learning issues.

All these variables were taken into the account when running the pilot and main studies (see chapter 7, in sections 7.3.5.2, 7.3.7 and chapter 8 in section 8.2.2), however, it seems that most authors focus on the concepts of sharing information, enhancing learning, saving time and could be engaged in any place and the ways these could be integrated.

3.3.1.2 Drawback of blogs

As it discussed above blogs have various features that can be utilized in education, such as, ease of use, improving communication and assisting critical thinking. Despite its

advantages, the weakness of blogs for use in learning environments is that they require updating and need to remain content interactive, otherwise learners may collaborate and contribute less, especially when the module's rule is structured. Furthermore, in this situation, learners are conscious of their instructor's interactions and require to be updated via feedback (Alhojailan 2012c; Chan 2007).

Chan (2007) addressed two disadvantages of blogs as a result of his literature review. The first disadvantage is that some learners prefer not to 'write' on blogs since they are open to public scrutiny public. No authorization is needed unless the blog is designed with security features (see Finneran (2006) and Mason and Rennie (2008, p.63). The second disadvantage is that of learner persistence for using blogs. This raises the question how far could that be controlled via instructors in terms of encouraging the practice. Chan was concerned if instructors are able to keep communicating thoughts and exchange experiences (Chan 2007), which "*may localised a student's interests in a small circle*" (Tan 2009 p.52). In addition, content reliability should to be critically reviewed. In connection with issues of reliability, the following queries should be raised. 'What are the purposes of utilizing blogs?' 'How may information be validated?' and 'Who is responsible to ensure the quality of blog content?' (Chan 2007, p.37). These issues made Clyde (2004) suggested criteria for evaluating blog activity e.g. determine the subject and control the information. By the same token Robin Mason and Rennie (2008) agreed with Clyde but felt that education institutions are "*still not being able to ensure the quality of the posts*"(Ibid p.62).

In addition, it is often argued that using online services in education saves time (Rosenberg 2004). This could be different for utilizing blogs. It has been stated that learners spend more time using blogs compared to face-to-face encounters for learning. This may be because blogs require involvement with more activities, such as, further

reading and following other content using hyperlinks, interaction by replaying for a big amounts of learners in short time (Alhojailan 2012c, p.123). Additionally, instructors could receive a large number of inquiries, especially when the module is structured and needs to be updated with materials and content (Ibid).

3.3.2 BLOG TECHNIQUES IN EDUCATION

The following sections focus upon and discuss the different opportunities for the implementation of blog tools as an assist web-tool in practical terms for techniques that could be implemented in classrooms during teaching. As previously mentioned, blog tools have the potential to provide online learning services using hyperlinks, pictures and audio segments, i.e. multimedia. By combining these features suitable and attractive tools can be developed for learners and instructors to use in classroom environments (Sim and Hew 2010; Huffaker 2004).

Learners and instructors together with blog content will form the pillars that will manage the output/input of the interactions using blog tools.

There is a lack of studies that provide a clear vision of how to construct a blog and which techniques to employ. Further, as far as this researcher can ascertain from the literature review, most researchers have adopted blogs that follow different types of blog engagements and communication. They utilize different strategies in a ‘practical’ way in terms of building interactions between the three main elements that comprise classroom learning environments, i.e. instructors, content and learners. This study suggests that different techniques may be suitable for different learning styles. The findings of this section revealed that blogs as Internet tools could be utilized using three main techniques as follows. These are discussed in the next section.

3.3.2.1 Blogs used in classrooms in a one way direction

This technique uses blog tools in a one-way direction, whether they start either from the learners or the instructor's end as illustrated in Figure 3

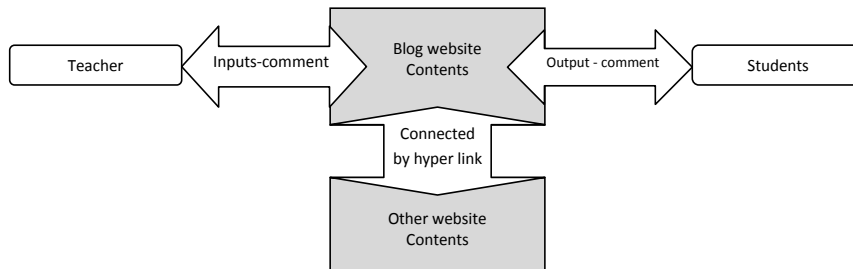


Figure 3: The act of using blogs in a one-way direction engaged by the outside environment. This is either another website's information or an outside audience.

Here, the participants are the learners and there is one instructor per class. Instructors organise and outline a subject for a learner by using a blog. In other words, instructors order the course subject by topics and manage the strategies that frame the learning activities. Moreover, discussions are started by the instructor in order to generate feedback by posting comments and using other types of content, such as, media or connected iteratively with other content to support and encourage any point. Additionally, blogs can act as an effective tool for instructors and the learners as well as an attractive way to archive knowledge so creating an institutional history (Huffaker 2004), which means all the information that has been posted will be saved in a secure location.

This approach provides a good way for participants to communicate, as blogs present online environments where instructors and learners are able to contribute further by continuing their discussions. For example, Noytim (2010) found that learners became more interactive and motivation about the tasks when they were provided via blogs. Moreover, it promotes learners' creative thinking. This is because learners, by publishing blogs, take important leadership and ownership responsibilities. When learners are in this position they become aware of the audience (outside the class). This

makes them prudent and encourages them to review their tasks. Review is an important side to blogs. Careful revision of content obviates the concern that blogs are open to the public and helps to overcome the reticence that some learners may possess about posting their thoughts and ideas publically (more information see section 3.3.1.2).

3.3.2.2 Blogs as a discussion environment

Here blogs allow instructors and learners (group) to transfer ideas and thoughts about subjects discussed in the classroom onto the web via weblog tools (see Wu 2005). In this situation, there exist equal opportunities for learners and instructors to post, reply and comment upon any new topics or discuss any other issues. Figure 4 illustrates the process.

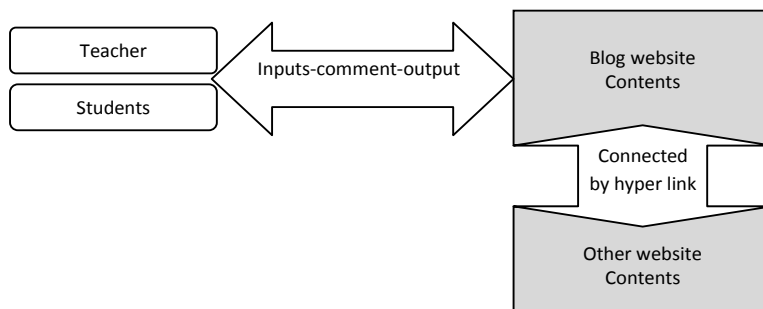


Figure 4: Started by either the instructor or student in a blog interaction with each other and linked to other websites

A two way intercourse is involved in this learning environment. For the first way the instructor posts and acquires the learner's attention about the topic(s) and subsequently creates other pieces of knowledge (content). The second way may prove more attractive. Here the instructor will act as an audience and a second advisor for a learner's posts. Furthermore with this method both instructor and learners have equal functions. Mostly, no rules apply for contributions.

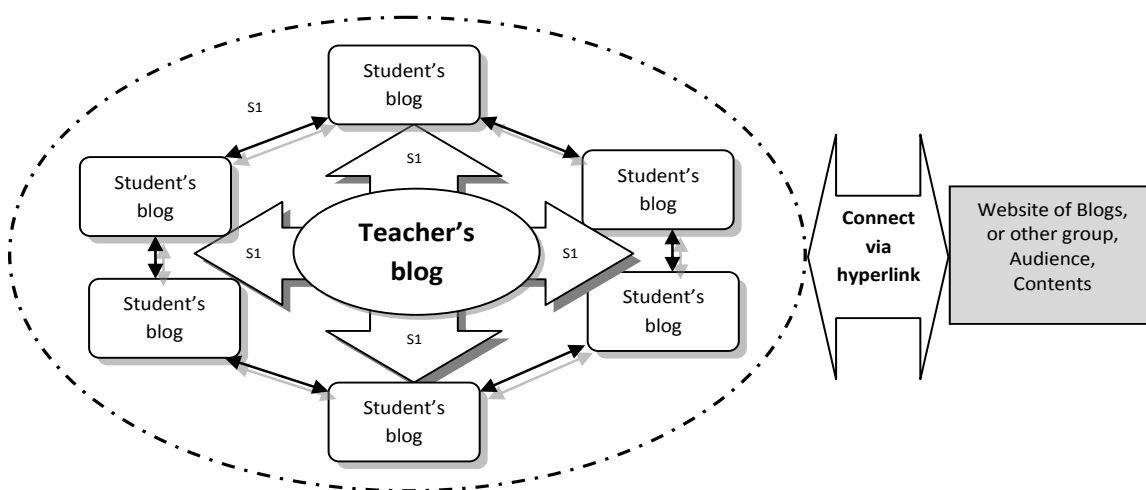
The instructor and learner act in individual ways. The instructor, learner or both could own the blog. Moreover, the tasks move asymmetrically between instructor and learner for posting and comment, which might provide them with opportunities, especially for learner, for example, to exchange/present the experience and the information with

others. This approach, nevertheless, should be based on methods the instructor/learner plan to use to achieve a certain outcome, e.g. supporting communication.

Using variations to the technique depend upon the purposes of the utilizations. The first technique in Figure 3 may be more suitable for structured modules. Learners in the Noytim study were required to perform a pre-determined number of tasks involving structure modules via blog activities. The results showed that this technique, as illustrated in Figure 4, could be more suitable when the modules are unstructured. This is because learners and the instructors are in the same position to contribute. This situation, however, is not obligatory as this technique could be utilized for any purpose. For example, the blog in the study of Alhojailan (2012) utilized a blog for instructors, which learners adapted with structured activities following the techniques illustrated in Figure 4.

3.3.2.3 Blogs as a group-learning environment

In this technique, the learners supply their own individual blogs. These are linked together to form a class blog. As a result, there exists a group of blogs per class, which may be connected to other classroom groups or websites. Moreover, each classroom member has the responsibility to manage their blogs according to the aims of the course. The instructor's liability will be to track the learners via their interactivities, e.g. adding either content to their own or another's blog or evaluating it. This technique is illustrated in Figure 5.



*s1=Input-Output content

Figure 5: The instructor's blog is central and connects to individual learners' blogs and all the blogs connect to external with internal resources

Here instructors are in a position to encourage learners to create and use blogs to assist their learning and to communicate with others (e.g. see Lin et al study in 2006). This will include connecting to other online sources of information. This technique aims to enhance the learning process in the classroom where learners are able to react with and exchange information and share experiences by using diverse sources or by proffering their knowledge and opinions. Additionally, this process could be commensurate with engaged with practical course when the learner may get benefit from other experiences.

The different techniques illustrated by Figure 3, Figure 4 and, Figure 5 utilize blog tools to enhance learning. These techniques could prove appropriate and benefit learners either as individuals or as a group and this should be the main goal of the modules. Moreover, it would lead instructors to use a variety of ways of setting their classes the task of utilizing these services. It does not, however, guarantee beneficial outcomes. In some circumstances, learners find that this type of technology and its associated techniques are unable to encourage and motivate them for unknown reasons (Divitini et al. 2005). Furthermore, the learners often seek the 'pros and cons' of the technology (see section 3.2). In this situation, therefore, it seems these techniques probably would assist to plan, build and develop learning environments but is not

enough for learners to benefit. This may be because learners are affected by different variables, such as, their perceptions, e.g. if they have a negative attitude toward utilizing the new technology it could depress their motivation and interactions (Hajihassani 2010).

Other researchers have found that utilizing blogs develops a learner's potential and skills and thus provides benefit. Lin and his colleagues (2006) said (with respect to blog services), "*proves to be an effective tool that enable student learning in an environment.*" This means that the learner has the possible ability at any time to find different information from different resources. This, however, is unconfirmed and there remains need for future research. This study will examine learners' perceptions by identifying the factors that influence their attitudes towards blogs. The results would inform a constructive way to use blogs in the educational setting (Huffaker 2004; Divitini et al. 2005). The aim of this research, therefore, is to clarify a suitable way to implement the read/write web via blogs.

The possible techniques for implementing and adapting blogs to learning environments in higher education have been described above. They provide little assistance in understanding their current use in terms of the factors that affected their implementation. In addition, as the above the literature review shows, the few studies that investigated blog adaptation used different ways to explore how to pedagogically utilize them and answer the question, what is the impact of blog tools on the learning process among learners. These pieces of research, nevertheless, have contributed towards an understanding of the current situation for integrating blogs within learning environments in higher education.

Educators have recently begun to adapt and implement read/write blog tools in education for multi-purposes, e.g. to identify learners' attitudes, deliver information,

exchange experiences and in some case improve learners' skills and knowledge (Alhojailan 2012b; Hajihassani 2010; Glogoff 2005; Divitini et al. 2005b; Lin et al. 2006). Furthermore, as far as this researcher can ascertain, none of these pieces of research provide readers with background information about blog implementation in higher education learning environments. These pieces of research give details of their aims, the methods that were applied, their participants and their results with their findings. But in fact, technically, most of the above research followed the essential techniques perception of blogs that been suggested in previous paragraphs, which includes communication between the learners and the instructors to manage content, i.e. text and multimedia via blogs for educational purposes, i.e. enhancing learners as described Figure 6

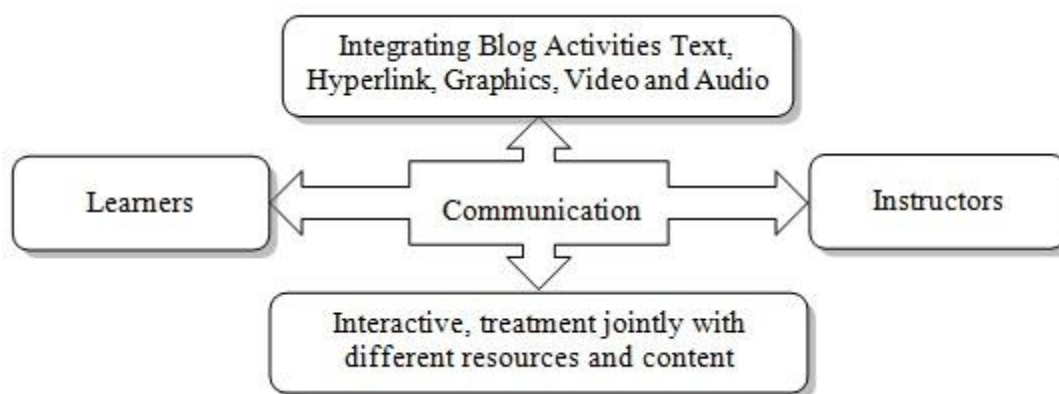


Figure 6: Essential perception for utilizing weblog services in education

3.3.3 INVESTIGATION OF BLOGS

In this section, the researcher will describe in detail a number of studies that have investigated blog services related to learning environments that have used empirical research methodologies. The aim of this section is not to comprehensively review all the research on blog tool implementation but rather to summarize the most relevant studies to establish findings that would be beneficial to this research. The main findings in this section will be referred to again during the conclusion of this study. The important of this section is that it presents different views of a study's reflections and

strategies. Furthermore, since this study aims to identify the current utilisation of blogs, their potential for development in learning environments in higher education, discussing these studies with the results of the current study, will lead to building a decent picture of the valuable contribution that blogs is able to make to learners.

In addition, the very important questions are posed, namely, what process is used to develop blogs in education and upon what theoretical concepts can blog be based? Numerous studies view blogs as a new area in education to investigate. Moreover, to measure the effectiveness and the impact of blogs on a learner's knowledge, experience and skills using eLearning tools, scientific evidence is required before these techniques are generally implemented in the classroom. This means obtaining evidence for addressing and understanding the phenomena (Popescu 2010). Some of these studies set blog tools as examples of effective pedagogical web services. Other studies have been unable to substantiate the expected success from utilizing blog tools. These studies recommend further investigations into blogs to find successful applications (Divitini et al. 2005).

Lin and his colleagues (2006) felt that blog services enable learners to develop their personal learning environment. In addition, they stated, blogs are acceptable as an online application by the effect of their tools. They were able to make this statement because of the outcome of their empirical research, which utilized blogs in the context of an international course. The module was designed as an online course for two different groups of learners from two universities in two countries (Japan and Taiwan⁴¹). The course involved distance learning using web blogs. The blogs became tools to encourage learners to reflect and communicate with each other. Instructors

⁴¹ Kyoto University in Japan <http://www.kyoto-u.ac.jp/en> and, National Taiwan University <http://www.ntu.edu.tw/engv4/>

motivated each learner to have his/her own blog that documented their learning in order to share it with others and to exchange their experiences about the module's syllabus with respect to the two different countries, similar to the techniques suggested in section (3.3.2.3) where blogs were used to develop group-learning environments. In addition, the researchers directed that instructors help learners to solve their problems (not determined in the study) and support them throughout the course.

With regard to the last point, Hall and Davison (2007) offered a different interpretation. They found in their empirical study into blog utilization that half the learners did not reflect their learning through their comments via blogs. They analysed 'only' the learners' comments instead of the learners' entries, i.e. the main posts in the blog. This point has been considered by this research, which focused and analysed the learners' main entries and comments at same time to avoid missing any data that could explain in more depth a learners' behaviour and perceptions (see chapter 8, sections 8.2.1.5.3, 8.3.2.3.3 and, 8.4.4.3.3).

Analysis the content of non-compulsory blogs, using a questionnaire that was distributed to the participants at the end of the course, showed that blogs provide learners with the necessary credibility to develop their personal learning. Over 700 entries were analysed (the majority was related to the course syllabus). The researchers concluded that blogs encourage learners to become reflective and better able to communicate with their peers and instructors. The design of the blog that was used was unprecedented because it catered for two different groups of learners from different universities in two countries (Japan and Taiwan⁴²). Furthermore, web blog usage involved an international distance-learning course.

⁴² Kyoto University in Japan <http://www.kyoto-u.ac.jp/en> and,

An analysis of the top 20% of active blogs in this study showed that learners benefitted. The blogs seemed to assist in integrating learning in “*relatively a long term*” (Ibid p. unknown). In conclusion, using blog tools in an international distance-learning course is effective and gives an opportunity for learners to exchange their experiences and greatly enhance their learning.

Learners that come from different countries, most likely have different backgrounds or at least different visions. Thus, they have different thoughts. This not made clear by the analysis of this research. This issue need to be allocated a position in future research in order to clarify participants’ backgrounds and the differences in their perceptions due to their culture. Furthermore, it was not clarified what were the components of the data collection, e.g. the questionnaire. Applying the questionnaire at the end of the course denies the researchers the opportunity to measure the change that has occurred before and after the study, which will better explain the effect of blogs upon learners’ thoughts and skills.

Examining the potential of blogs in terms of providing learning space for learners in higher education proved positive in research carried out by Williams and Jacobs (2004). Blogs support attractive learning and usability by learners. The data for this research was collected via an online open and close questionnaire distributed to two groups of learners. No instructions and very little advice were given about how to use blogs. Thus, the blog administrator completely relied on the learners’ own techniques. In addition, blog participation was optional in the two courses modules. Five marks were awarded to the learners. The researchers indicated “*but students were advised that five 'meaningful' contributions in the six-week period of the unit would be sufficient to*

earn them five marks” (Ibid p.236). The learners were satisfied to use blogs in future modules. According to the advice given to the learners for them to contribute at least five posts, they struggled. The researchers admitted that it was a mistake to include a fixed number of contributions for blog usage while it remains an optional assessment. It was found that exchanging experiences was very valuable and proved efficient. The researchers concluded by saying,

“..Blogs have the potential, at least, to be a truly transformational technology in that they provide students with a high level of autonomy while simultaneously providing opportunity for greater interaction with peers.”(Williams and Jacobs 2004, p.242)

In addition, a few points should to be mentioned. Online questionnaires are not always reliable unless they has been properly designed, e.g. to avoid any irrelevancies that may distract the participants. This was not mentioned in the above study. Statistics, for example, do not demonstrate a relationship between certain variables, e.g. learners’ attitudes and their practice. This makes the results unclear in terms of understanding in-depth learners’ perceptions and attitudes. The very important point here is that each quotation that is collected is not analysed by following a particular technique, e.g. grounded or thematic analysis, as this will not support the rest of the results. This means that each statement needs to be individually analysed. Finally, the type of questions used seem more suitable for market rather than social research, e.g. questions five says, *“would you like to see blogging used more widely in the MBA as a learning/assessments tools?”* (Ibid p.240) The authors used only one question for each variable and this type of format could measure a number of items to provide proof and give strong evidence for the statements and what the participants claim, especially when the aim is to measure attitude (Gliem and Gliem 2003).

The results of the above research are similar to another study done by Wu (2005). He conducted an experiment that aimed to measure the impact of blogs and their

advantages with respect to English writing skills. Technical instructions of how to create and structure blogs were given to the learners⁴³. The study gives a description of the learners' reactions. Each one of the learners had their own blog and they were able to connect to the teacher's blog, similar to the technique suggested in section 3.3.2.3. The details of the two groups of learners can be seen in Appendix J.

The open-ended questionnaire was conducted at the end of the study, similar to Lin et al. (2006), i.e. after the experimental phase. This study showed that blogs help learners to improve their skills because content is easily added but in terms of posting multimedia, e.g. photos or clips, learners found it difficult. To be more specific, the majority of the learners believed that publishing their tasks and homework enhanced their confidence with respect to their work. Furthermore, more than half the learners believed that it is a good idea to use blogs from their modules. On the other hand, only one learner disagreed with that. Less than half the learners responded to their instructor's advice and invited their classmates on other modules to share and contribute as visitors. Interestingly, it has been found that there was a wide gap between learners' beliefs and actions over blog usage. The researcher claimed,

“....wide gap between belief and action. The fact that most students agree that posting articles on a blog is a good idea cannot be transformed into an action to post more articles.”(Ibid p.428)

No reasons were offered to explain this issue, i.e. learners' attitudes and action complexity. Furthermore, one should mention that the learners followed their instructor in terms of how to utilize blogs via postings and comments. Therefore, each reaction could only show that the learners followed the line of the structure of the subject and mostly nothing else. This phenomena and the lesson learnt from the pilot study of this

⁴³ How to register with the blogger services and to add or remove comments

research were taken into account when designing the empirical investigation (more information is included in chapter 6, section 6.4 and chapter 8, section 8.2.1) and particularly when designing first action research cycle (more information is included in chapter 8, section 8.2.2).

With regard to the designation of marks to blogs, it is worthwhile to mention that the two groups were not equal. Furthermore, Group B gained 20% of their final marks according to their activities via blogs. Therefore, the reality of the participants' actions did not reflect their real attitudes. This could be the reason of why the researcher found a wide gap between learners' actions and attitudes. Furthermore, the tasks required for both groups were not same. This probably caused the mismatch between learners' performances and their actions for the same tasks or activities, which made the research, in this sense, similar to Williams and Jacobs (2004) study (see the previous paragraph).

In addition, as the course descriptors were different, any single or generalised opinion drawn about both will mostly not be valid. In addition, it is not clear whether the researcher intended to compare the two groups by measuring their differences or just use them as one group to collect data. The authors collected the data only once at the end of the course (the same in Lin et al. (2006) and Williams and Jacobs (2004) studies).

Different results have been obtained by Divitini and his colleagues in 2005. Their work focused upon the advantages and disadvantages of blogs in supporting learning⁴⁴. Each learner had to create his own blog and used it in their course (similar to the techniques in section 3.3.2.1). Furthermore, the researchers presented the blog to learners as diary

⁴⁴ Applied in Norwegian, University of Science and Technology, <http://www.ntnu.no/>

tools with an online website for sharing and interaction. The learners were required individually to explore the blog, e.g. how to use the blog (technically), post and comment. Data was collected by a multi-instrument questionnaire, blog analysis of content and learner observations (Divitini et al. 2005 p.220). The methodology was the same as Wu (2006) and Lin with his colleague's (2006) studies. Nevertheless, in our research, the researcher planned to collect the data before and after the empirical study. This particular feature of the research had been previously used in another piece of research (see chapter 7, section 7.3.5.1). The original researchers found that by collecting data before and after the learners had experienced the blog enabled the collection of more accurate information about their perceptions..

The empirical investigation by Divitini and his colleagues in (2005) does not seem to have succeeded. Few learners felt the need to use blogs during their course for a number of diverse reasons, e.g. it takes time to acquire an overview. Some learners had no idea how to use the technology while others mentioned that it was hard to overview all the information that was provided. In the end the researchers suggested using a blog might be useful in other situations when its functions and concepts have been defined. In this regard, a researcher ought to indicate that the blog has been introduced to the learners:

1. As a diary and,
2. As a tool for sharing ideas and nothing else.

That will probably encourage learners to engage with the blog and attempt these two concepts.

As far as the researcher can ascertain, little research has been conducted to discover the potential of blogs in higher education to develop and enhance critical thinking skills of learners. These studies show that integrating blogs probably promotes critical thinking

and are found an area not available for assisting learners' performances (Goh 2010). Nevertheless, blogs create an environment for collaborative learning, sharing ideas and exchanging experiences. The following paragraph explores these studies.

Instructions were given to 24 learners by Kang and his colleagues in (2011). The learners in this study had to share and write a report about their learning environments both formal and informal. In addition, synchronisation was used, i.e. one week they communicated through blogs and during the other week in class. Furthermore, learners were required and encouraged to submit individual and team products or items that they generated. The main result of this study was that blogs were able to enhance communication between learners and instructors. This was because blogs were easily accessible and simple to engage while at the same they supported the exchange of experiences between learners and instructors. Interestingly, the findings in this study support the commonly held idea that web 2.0 is about the attitude of learners and not just its technology (more information is included in section 3.2.2.1 and, 3.3.1.1). The interaction between learners in this study could be described via blog as,

“Extending far beyond the more confining perspective and function of an online journal or diary. Rather, a blog or blogging activity is a pedagogical tool for learner-centered, community-based and content- or knowledge-based instruction.”(Kang et al. 2011, p.233)

The analysis of this study was based completely on blog entries. This, as mentioned earlier does not inform about learners' perceptions, especially when they follow particular structures.

With regard to the importance of rules of structure for blog implementation, Alhojailan (2012b) concluded, from learners' perceptions, that structured modules could be unbeneficial. The reasons is,

“...the nature of web 2.0, which is based on user participation. With structured modules, learners will miss the opportunity to participate freely. In addition, all the actions for the learner will reflect the rules and the assignments of the modules”.(p.124)

The main variable that affects the implementation of a blog was interactivity, especially those that originate from the instructor. Most learners agreed that blogs enhance motivation. In addition, the module instructor did not express a clear opinion whether or not blogs enhance learners' performances but claimed that interactivity delivered from face-to-face into online activities did.

Perschbach's investigation in (2006) aimed to discover evidence for critical thought in learners followed by an evaluation of the growth in blogging that provided opportunities for reflection. He used three instruments to collect the data: a survey including learners' demographics, a reflective essay and analysis of blog content. He established a non-private blog via Internet services before the start of each semester. Processing was structured for each learner by creating individual blogs. Twenty-eight learners participated from two courses. The 'reflection element' of this study aimed to identify the factor of time, linked to others' websites, learners' collaborations and their attitudes. With regard to time, learners complained about the time constraints and linking blogs to others' websites, which is an intrinsic part of this kind of service.

The learners, however, seemed to cooperate. Only 8% claimed that they were not interested in reading or interacting with others. Generally, learners have a sense to agree with the importance of co-operating as the world is changing and technology can affect any part of it. Learners have to be willing to share their thoughts and be open-minded and some learners claimed they have gained information by sharing their experiences.

The majority of learners felt encouraged and a sense of satisfaction when they integrated their blogs into their education environment. Blogs, however, may not be suitable for all learners for several reasons, e.g. the technical issues of dealing with blogs, feelings and convenience to share with others in the class via an analysis of the content of their blogs. Blogs seem offer an effective learning service regarding learners' comments and statements but here the reflection of learners via posted blogs does not seem to match their responses, which clearly shows that learners may possess complex actions that are likely to cause conflict. Further, there are differences between learners' attitudes and their actions. This could be addressed by utilizing multi-instruments that could highlight inconsistent actions and behaviour. These issues are taken into account by this research. Multi-instruments are used for gathering data from different positions. The researcher expects to experience multi-action regarding one or more concepts By using this approach, the researcher hopes to gather data from different perspectives and is more likely to be able to link relationships between different factors within learners' attitudes and actions (more information is contained in sections 7.3.5, Table 10).

Jones (2006) used eighteen learners in his study He conducted in-depth interviews using a closed-ended questionnaire at the beginning and end of the study. His study aimed to investigate how blogs are utilized with respect to the writing processes adopted by learners and to investigate how they respond to the pedagogical application of blogging in a community college. Qualitative research coupled with action research was used. The main finding of this study was that utilizing blogs most likely assists improvements in critical issues with respect to a learner's trust and confidence. This was due to their tasks having been completed during the study. Positive reaction has

been concluded. The researcher used the results of the analysis of the reflective learners' posts; the important outcomes of this research are listed below.

1. Learners focused on the content of blogs to develop their skills in writing. This blog characteristic made learners more interactive.
2. Feedback made it easy to refer to their work and their corrections.
3. Learners were easily able to read and respond, as posting in blogs are powerful for building knowledge-structured environments.
4. Blogs improve learners' skills of receiving and remembering and so knowledge shifts-up into a position where they are able to analysis and criticize it.
5. The researcher claims that action research (AR) supports new knowledge by providing evidence and linking it to existing knowledge (more information see Whitehead and J. Whitehead (2009)).
6. The majority of learners indicated that their abilities improved by reading the feedbacks, e.g. reading others' explanations, which helped to confirm some of the concepts they studied.
7. Only one participant claimed that her critical thinking improved via reading and giving feedback but the researcher could not detect any improvement. One should be aware of this when comparing learners' claims with their actions.

Blogs provide multi-ways for learners and instructors to become active. In addition, they make the learning environment communicate more effectively. Blogs support the relationship between teachers and learners. Finally, blogs provide new ways of interacting with learners and fulfil the desire of instructors not only to be active but also to become co-learner contributors with their learners (Felix 2007). This investigation aims to determine the impact of blogs' as a web service for teachers to use in the classroom to communicate with their learners. The research also investigates teacher perceptions of blog usage and the way in which they are usefully used.

A qualitative approach is adopted for this study, which involves action research, a survey with interviews for data collection using an open-ended structure and document analysis.

Promoting the reflection of learners' thinking using technology via blogs is the aim of Chan's (2007) action research methods study. The results of his study are shown below.

1. Collaborative learning is not necessary a consequence of validating collaborative tools, i.e. blog tools.
2. Blogs may be positive. There is a small amount of proof that shows that learners become slightly interactive but not enough to change their way of learning.
3. There is a room for improvement, as 73 learners consider blogs to be inconvenient while 34 learners prefer to practice and share ideas.

The researcher claims that the nature of blogs facilitates communication between instructors and learners. They were active on a weekly basis and progressively they come to understand more of each other's actions. Feedback is one main issue in this study.

“Feedback serves the function of knowledge construction, encouragement and motivation for students to sustain their learning.” (Ibid, p.137)

Furthermore, some learners claim that they actively look for and desire their instructor's feedback, because it enables them to monitor their progress and it provides guidance. These comments confirm the theory, which says that learners go to gain advanced advantage via feedback, which would lead to revision and the successful completion of their objectives (Popescu 2010). In this study, specifically in the pilot, learners claim that poor feedback via blogs makes them less interested in becoming active; however, some of them claim that not knowing their instructor's opinion makes them confused, especially when they are not confident about the context. This point leads to the very important issue of the reliability of content through blogs. It is a factor that may affect learners' perceptions (see section 3.3.1.2 for more information). Issues that concerned interactions between learners and instructors that involved feedback were considered when designing the pilot study and the empirical investigation of this research.

3.3.4 SCOPE IN PRACTICAL LEARNING

Previous studies (summarised in Appendix J) show that blogs have characteristics that make them useful in education in diverse ways, e.g. collaborative learning, group/single discussions, developing learners' thinking skills and sharing experiences and knowledge (see Ferdig and Trammell 2004). One of significant advantage is the potential to raise the level of a learner's skills from first level of Blooms' Taxonomy to the critical thinking skills level, i.e. from cognitive knowledge to analytical skills (more information is contained in chapter 4, section 4.4.1). Blogs increase communication between teachers and learners and they improve instructors' skills and teaching methods within classroom environments. Furthermore they increase the confidence of learners and their instructors. It is also very important that these studies provide the technical basis for any future research.

One feature of a blog is that learners can omit information that contradicts what they believe or do not represent but at the same time they can hid the reality of their feelings from the researcher. The researcher should be careful when comparing participants' attitudes with their actions to determine the relationship between them. It is, therefore, not easy to claim those factors associated with action and attitudes significantly affect the effectiveness of blogs in the classroom. It depends on many factors that affect the process of utilisation of blogs. It seems from previous study (see Appendix J) that blogs have the potential to be used and integrated into the learning environment in different ways, especially in higher education. The process could be natural and no benefits noticed (Hall and Davison 2007; Nardi, Schiano and Gumbrecht 2004; Kim 2008; Wang et al. 2008). A few points that have been addressed by these studies as listed below and are taken into an account by this research.

Firstly, a brief analysis of the empirical studies on the current usage of blogs in higher education (see the previous sections that summarises the studies in Appendix J) reveals their strengths and weakness. There is no guarantee of successfully utilizing blogs in higher education environments; however, practice is one way, which provides evidence to inform better utilization. Garrison and Anderson (2003) said,

“Internet and ELearning are wonderful sources of ideas but to be ‘genuinely educative’ they must provide an experience that assures ‘continuity’ of the foundation of new, worthwhile learning experience”(p.13)

In addition, a numbers of studies reported that they received negative attitudes from some learners without explanation. Claims by learners that blogs offer insufficient experiences and opportunities to demonstrate knowledge due to its tools need to be investigated by in depth analysis that focuses on learner’s perceptions, especially when researchers report that there is a gap between learners’ practice, their interactivity and their opinions due blog engagements. At the same time, educators should cautiously consider the impact and influences on learners before they implement any new web tools (Lin et al. 2006; J. B. Williams and Jacobs 2004; Divitini et al. 2005a; Tan 2009; Huang 2002), (more information see Clark and Mayer 2011, pp.50–54).

Secondly, when investigating educational technology coupled with social study, one should be aware regarding the choice of instruments for collecting data. This research found it is better to apply more than one instrument as participants (learners) could enact information that contradicts what they believe or does not represent the reality of their feelings. The data collection instruments chosen for this study are

1. Questionnaires (Lin et al. 2006; Williams and Jacobs 2004; Wu 2006)
2. Interviews (Huettenlocher 2006; Alhojailan 2012c)
3. Observation (Alhojailan 2012b; Divitini et al. 2005a) and, Analysis blog’s content (Lin et al. 2006 ; Divitini et al. 2005), (more information is contained in

chapter 5, sections 5.9.1, 5.9.2 and, 5.9.3 and chapter 6, sections 6.3.4 and 6.4.1.1).

Thirdly, to reflect, keep, write, describe, provide, share, explore and develop, all these phrases were adapted by this research to discover the factors that influence blog services. This provides the research with a massive range of information, which can be localized by exploring those areas that influence education environments from the literature review's findings. The most common factors taken into an account in this research are -see Figure 7- : learner's attitudes (Alhojailan 2012b; Williams and Jacobs 2004; Al-Arfaj 2001), ease of use (Downes 2005; Chan 2007; Solomon and Schrum 2007; Alhojailan 2012c), content (Anderson 2007; Conole et al. 2006; Jones 2006), convenience (Eilon 2001; Alhojailan 2012c), interactivity (Goh 2010; Tan 2009; Alhojailan 2012c), motivation (Sim and Hew 2010), time (Chen and Bonk 2008; Sim and Hew 2010; Al-Arfaj 2001), transferability, i.e. the capability of deliver content and information from or into the blog and interest (Xie and Sharma 2005; Alhojailan 2012c) (for more information see chapter 5, section 5.3 and, 5.9.4 with chapter 7, section 7.3.5).

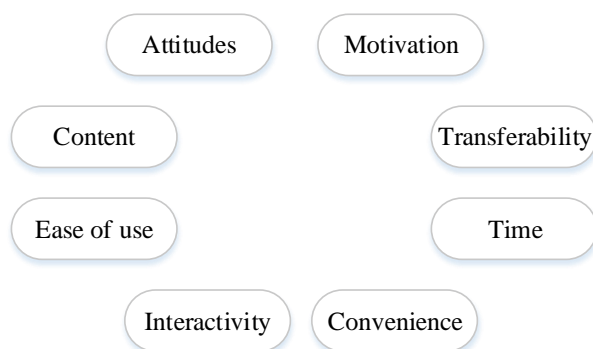


Figure 7: The most common factors influence the implementation of blog tools in higher education

Fourthly, using previously studied issues very important questions could be outlined to ensure that the researcher uses the best methodological approach and is able to sense the intention of researchers who want to perform a similar study. These questions are:

- Is there any need for learners to utilize blog services for classroom activities?

-
- How and why do they want to use it as a strategy?
 - How to design the data collection instruments to get an appropriate answer?

Finally, is there any instructional model that the researchers should follow in order to adopt web 2.0 tools?

Another important point, most of these researches rely on a non-theoretical background. This means that they focus on adapting blog tools, e.g. for improving skills, developing or improving communication but very few researchers concede to frame their empirical work theoretically, e.g. the studies of Williams and Jacobs (2004) and Wu (2006) did not build their empirical work on theories or models. Only a few researchers designed a specific framework based upon theories to substantiate the study on proven findings. This led to better blog implementation and an appreciation of the limitations of utilizing blog in higher education (e.g. Ali Zuhdi 2003; Chan 2007; Alhojailan 2012).

Final point, blog interaction has been investigated from different perspectives, for example, most authors claim that they investigate the best way to improve the introduction of blog tools into the classroom in higher education. As far as this researcher can ascertain, only one considered action research (AR) as a method (Jones 2006). Action research is strongly recommended when researchers attempt to develop, understand learners' perceptions and knowledge. The literature review also showed that effective compatible techniques include multi-instruments that could be integrated. More information is contained in chapter 5, section 5.10 (Zuber-Skerritt 1992; Spector 2008). Action research needs to be consolidated, especially, e.g. when the research investigates learners' actions and behaviours with the integration of Internet technology. Such an inquiry would involve an in-depth investigation, which links to this research. Furthermore, this research is expected to provide knowledge by

conducting multi-references and support from different perspectives, which are obtainable by planned action research. In addition, this research will provide an opportunity for the researcher to become engaged in cycling activities with learners, i.e. intervention by practice (For more information see chapter 8. section 8.2).

3.4 CONCLUSION

This chapter sought to construct the literature review of this study in two parts. First it overviewed web 2.0 by describing its nature, features and benefits for higher education. Web 2.0 has the potential to be utilized by higher education. Furthermore, learners in higher education are receptive to this technology but the main consideration is its advantages and disadvantages, ‘the pros and cons.’ Attempting to apply empirical research is one of the most efficient ways to address the factors that negatively affect web 2.0 utilization. Determining the factors that could affect the utilization of web 2.0 has been considered by this research. The second part discussed, in detail, blog characteristics, its features and drawbacks. Three main techniques were suggested that could be used with blog tools. In addition, it described the empirical research that has been completed within higher education. These pieces of research have inquired into improved communication, raised levels of critical thinking, the provision of an online place where learners and instructors can interact and share knowledge from different resources. Diverse benefits have been identified and are considered by this research.

The next chapter will focus on describing relevant learning theories with their related models to propose a framework that relates to the appropriate technology that forms the subject of this research.

4 EDUCATIONAL THEORY

4.1 INTRODUCTION

The two parts of previous chapter described the new phenomena, which is available on the Internet, i.e. the read/write web [web 2.0]. The features and drawbacks of its implementation in higher education have been reviewed. The chapter also discussed the nature of blogs and the personal skills that are necessary to use them in higher education. In addition, the chapter suggested three different techniques by which blogs could be adapted for use in learning environments. Last section of the previous chapter reviewed the relevant empirical research that been done in HE learning.

In this chapter, the researcher aims to give a brief overview of various learning theories based upon the three main schools, i.e. Behaviourism, Cognitivism and Constructivism (Siemens 2005). Subsequently, Bloom's Taxonomy of Cognitive Learning with reference to Boud's Model for Learning Experiences will be discussed together and with different styles of interaction between learners and teachers. These are most relevant theories that are involved with this research.

In addition, the current chapter will highlight the main concepts that have been extracted via learning theory, which is considered in this chapter. Subsequently and during the discussion, this chapter will provide information concerning the utilisation of web 2.0 in higher education where the research takes place. Issues related to learners' perceptions, attitudes and skills will be discussed theoretically in terms of interrelationships and interrelatedness between the learning theories and the results achieved through the integration of Web 2.0 via blogs.

4.2 LEARNING THEORY

“A theory is a way of thinking and a model of how things work, how principles are related and what causes things to work together.”(Austin et al. 2001, p.15)

Yang (2003) argues that the principle of any learning theory aims to explore the development and change in human perspectives and behaviour. Phillips & Soltis (2004) believe that diverse investigation processes into learning phenomena have resulted in the production of a variety of learning theories. According to the above researchers, this diversity derives from different directions in terms of differences in practitioner perspectives, for example, by focusing on learners’ perceptions and experiences, which is one of the most appropriate ways to investigate instructional learning. It is argued that exploring learners’ thoughts, attitudes and actions serves to develop new concepts or theory (Marton et al. 1997; Bloom et al. 1984). This means that it lies with the learning process to develop learners’ concepts rather than knowledge itself. In next sub-section, the study briefly discusses the fundamentals of behaviourist, cognitive and constructionist learning theories and includes Bloom’s Taxonomy and Boud’s Model with their associated concepts.

4.3 BEHAVIOURISM

Waston (1913) coined the term “behaviourism”. It comes from the Greek word “didaskain”, which means “teach” (OED 2012)⁴⁵. This school is concerned with giving instruction about how to learn and is commonly linked to dedicated pedagogical beliefs. This theory is based on the idea of setting off a stimulus and obtaining a response for each unit, in which the stimulus and response are obvious, therefore, observable and by extension measurable (Ali Zuhdi 2003). The importance of this theory for teaching and learning is that behavioural change can be engineered within the learning process.

⁴⁵ Online of Oxford English Dictionary, <http://www.oed.com>

Further, learners' thoughts are not important compared to what he or she is or doing. In other words, the teacher has full responsibility for the pedagogical tools, constructing content and managing the learning tasks to ensure that learners possess the skills they need to be successful only in the expected behaviour. This behaviour could be transferred by learners and adapted to other cycles of behaviour to elicit appropriate responses (Bruner 1996). This procedure, in some way, is engaged during any education process with respect to the context of the learning, e.g. passing a driving test is an empirical examination. The test's objective is to measure a driver's learning ability (his knowledge). Therefore, the learners' acts are more important than the knowledge they have gained to 'reflect not think'. The function of the teacher is to provide conditions necessary to adapt or change a learner's behaviour, reactions and actions (Burner, 1994).

Content is transferred repeatedly until the goal is reached. The goal is to make learners preserve and remember and retrieve content when it is needed, i.e. remembering and to act, rather than focusing on analysis or improving thinking skills (Child 2004). In addition, as discussed in the previous chapter educators seek to utilize technology, i.e. learning based technology, especially Internet services in higher education, such as, integrating the read/write web in education. This research aims to gain benefit from this potential (see chapter 3 sections 3.2, 3.3 and, 3.3.3). Web services are one of the technologies being introduced into education as a priority. Education and technology interdependence first began with Skinner (1904-1990)⁴⁶. He applied the theory of behaviourism to instruction using a teaching machine (Gagné 1985). This teaching machine aimed to manage a curriculum of programmed instruction, which included a

⁴⁶ An American behaviourist, author, inventor, social philosopher

list of questions. When the child elicited a correct answer; he/she obtained a reward from the machine. The idea of a teaching machine was based upon reinforcement and reward.

“Skinner reinforcement means a particular arrangement of stimulus and response conditions that bring about learning of new associations.”(Gagné 1985, p.9)

This theory, therefore, aims to get learners to respond to external stimuli and subsumes the role of the instructor. Here a learner’s behaviour is caused by external incentives.

Like other theories, behaviourism has been criticised as it focuses only on learners’ actions. It measures the learner in terms of his/her, e.g. verbal ‘act’ and nothing else. It ignores his/her intellectual and emotional potential regarding different issues. It neglects the effect of the environment that surrounds the learner, such as, the social impact (Gagné 1985; Ally 2008).

4.4 COGNITIVISM

Cognitive theory emerged after many learning concepts had been developed. It is used in education systems in terms of establishing reinforcement rules and affects practice and the nature of tasks within learning environments (Bolles 1975). Moreover, it has been claimed that a person’s perception of any situation could be the basis for responding to stimulation. This means that a person could understand by delivering a cognitive description (Child 2004).

Cognitivism was a response to the development of behaviourism. Cognitivism is concerned with the process of the mind (the cognitive process). It is a theoretical study that attempts to understand the mind (the process) of *how* we understand, think, learn and remember knowledge. Behaviour itself constitutes theory for the Behaviourists while Cognitivism focuses upon the advantage/disadvantage of the response to the principle of acquisition of knowledge (Au 1997).

In Cognitivism, the acquisition of knowledge is central when it engages with the curriculum. In other words, teaching processes derive from the textbook (specific content) and the lectures focus on research and practice based upon the text (Mayer 1996). Cognitivism is concerned with how a person ‘individually’ deals with knowledge to go further, e.g. how to solve problems. Thus, learning is individualised as knowledge is structured by the learner’s own understanding. New knowledge will be formulated on prior experience and constructed on a person’s perceptions, not receive as facts or axioms. It means that, educational styles are based upon structured content delivered continuously to learners.

Vygotsky (1896-1934) and Piaget (1896-1980)⁴⁷ were the main names who established and developed this theory. Piaget emphasised that the evolution of a learner’s thinking (as an individual) comes differently at different periods with different situations. Thus, the ability to gain knowledge in cognitive content is always expressed as stages of intellectual development (Child 2004, p.67). Yang (2003) claims that this theory significantly influenced the cognitive theories of the 20th century and remains applicable for some present day activities, such as, those that involve the use of computers (Eysenck and Piper 1987).

The concept of cognitive theory is concerned with internal thinking processes, in contrast to behaviourism. It leads to the belief that learning relies on previous knowledge or experience (these ideas are emphasis by Boud’s Model in section 4.5.1), different level of thinking, cognitive structures and the depth of cognitive stages. The theory in its early stages of development failed to recognize whether learners’

⁴⁷ Jean Piaget “(9 August 1896 – 16 September 1980) was a French-speaking Swiss developmental psychologist and philosopher known for his epistemological studies with children. His theory of cognitive development and the epistemological view are together called "genetic epistemology” (Piaget 1952)

performances could be affected by their motivation and emotions (Eysenck and Piper 1987). In research into the development of problem solving abilities based on motivation, it was found that a learner's attitude could influence his/her cognitive processes and intellectual skills. Some learners struggled to construct their own thoughts and this produced negative attitudes. These learners tended to rely on memorising skills (Wesch 2008 in Goh 2010) .

There are differences between Behaviourism and Cognitivism. Behaviourism is only concerned about learner's skills and how much is remembered. The learner's act is about value (see section 4.3) rather than the value of what is remembered (Ally 2008) and focuses upon rules of instruction rather than on the learning process itself. Learning is affected and improved via feedback and rewards (Du and Wagner 2005). Cognitivism focuses upon knowledge itself, how to utilize it to provide content (Eysenck and Piper 1987, p.214) and how to develop styles regarding any procedures and mechanism of choosing, keeping, organizing, recovering and evoking knowledge and information (Phillips and Soltis 2004).

Cognitivism, however, overlooks two very important points. Firstly, there is the environment that surrounds the individual's knowledge, such as, the affect of culture upon the learning process. Secondly, it focuses on a child's age characteristics (Piaget) and the knowledge that is processed by the individual's effort, which is still used in education systems to transfer knowledge (Du and Wagner 2005). Its main critique comes through assertions about the affect of culture on education and learning, i.e. the social setting as Vygotsky later discovered (this is discussed in section 4.5) (Phillips and Soltis 2004). Secondly, Cognitivism ignores the results of the accumulation of knowledge by the individual. This effect is noticeable when new knowledge is linked to previous knowledge (Bruner 1977).

Based on the above, Vygotsky with Bruner⁴⁸ shift-up their theory to another level to accommodate learning interactions with the world, e.g. the social environment (Vygotskiĭ and Rieber 1997; Du and Wagner 2005). This level not only supports but also affects information and instructor assistance by providing learners with structured tasks and activities (Bruner 1977). For learners, knowledge acquisition could be assisted by collaboration. From this point of view, planning tasks and activities, developing learning materials and working collaboratively is the responsibility of the instructor who must introduce learners to it so “*cognitive apprenticeships stress the collaborative efforts of groups of learners as sources of learning*” (Ullrich et al. 2008, p.706).

Vygotsky’s most important point is that he believes in the potential of young learners to acquire knowledge within social interactions because they are stimulated by others’ experiences (Phillips and Soltis 2004). His developed ideas contributed to the phrase ‘cognitive constructivist’ to address the critical thinking of learners who are engaged with interactions and the support that is involved in collaborative learning. In other words, determining a learner’s needs, choosing the content and structuring the learning activities should to be aimed to produce a better learning environment.

With regard to a learner’s ability in terms of cognitive theory, people differ in their ability to receive, think, address and organise knowledge and information. As a consequence, the way of following the concept of cognition may not be the most ‘correct’ one in all its stages for all learners at same time even though instructors are responsible for managing and preparing the materials for all their learners (Au 1997). From this position and connecting to technology, eLearning faces challenges in terms of utilizing its tools to cater for individual learner differences (Graff et al. 2012). Further,

⁴⁸ American psychologist 1915, 97 years old

utilizing eLearning probably provides knowledge from diverse resources and perspectives via cognitive tasks and activities (Cunningham and Duffy 1996).

The implementation of eLearning intersects to meet the differences in learners' abilities in terms of constructive cognitive perspectives. Further, two points are raised that are cognisant with this condition. Instructors have to appreciate two variables that affect the learning process when eLearning is used with constructive cognitive concepts. They are:

1. The learner's ability (differences and similarities) in terms of how they are learning and what type of skills they embrace when utilizing technology (Goh 2010).
2. Understanding how to use eLearning for learning purposes, particularly with respect to web 2.0 services. This point is particularly significant as there is lack of instructor experience and knowledge how to effectively adopt and use web 2.0 (Mason and Rennie 2008), particularly in higher education in Saudi Arabia (Alebaikan 2010; Al-Ghonaim 2005). In this regard, this research aims to fill the gap (see section 2.4.4).

In addition, the radical development of the eLearning through web 2.0 innovation allows for the effective but limited use of Cognitivism, because web 2.0 engages a large number of learners in a form of continuous but controlled constructivism (see section 3.2 and 3.3). This phenomenon arises because the visions and experiences of others are mixed with what has been neglected (theoretically), especially during the early stages of the development this theory, because the effect of social factors on constructive knowledge was not appreciated (Phillips and Soltis 2004).

Internet technologies, i.e. web 2.0 are considered applications where experiences need to be developed, shared and exchanged. These applications use the high potential of the social environment to gain different aspects of knowledge through constructive cognitive perspectives (see chapter 3, section 3.3.3 for more information e.g. Alhojailan

2012; Miyazoe and Anderson 2012; Sim and Hew 2010). In addition, as mentioned above, Cognitivism ignores the fact that learners learn in a diversity of ways because of the differences in their abilities to understand and analyse current and previous knowledge. Further, technology resources, i.e. Internet applications, often provide assistive tools that are consistent with different levels of a learner's cognitive skills. It has been claimed,

“Technology makes possible to target the right approaches for each student in order to provide individualized and differentiated instruction.”(Solomon and Schrum 2007, p.37)

The learning styles have moved from behaviourism, cognitivism and instructor-centred (where instructors are fully responsible for organizing, managing and determining what is not suitable for learners) to learner-centred. Here the role of the instructor becomes transformed to assist and prepare learners for the collaborative learning environment, which is supported by technology, e.g. Internet tools (Barab et al. 2002; Almala 2006; Ullrich et al. 2008). Furthermore, it allows learners to base their own thoughts upon their own experiences that merge with any new concept (later work of Vygotsky).

With regard to the importance of the factors mentioned above due to cognitive theory learning processes, this study ‘practically’ attempts to fill this gap in terms of:

1. Providing knowledge of *How* to use Internet technology, i.e. web 2.0 via blogs,
2. Providing practical experiences for learner interactions and activities by implementing web 2.0 via blog tools.

The aim of this research is to focus upon learner engagements with interactive learning environments to provide conceptual frameworks that involve diverse concepts, i.e. learner's perceptions, skills, attitudes, knowledge and the relationship among these factors that affect the implementation of blog services in higher education. As far as this

researcher can ascertain, there is a lack of research that considers all these factors in one piece of empirical research (see chapter 3 section, 3.2.2, 3.3, 3.3.1.1, 3.3.3 and, 3.3.4).

Later work by Piaget, Vygotsky and Bruner into behaviourism and cognitive theory development demonstrated the existence of a very common concept in learning theory, i.e. constructivism and social-constructivism (Almala 2006; Dewey 1998; Bednar et al. 1992; Du and Wagner 2005). Before discussing this theory, it is worthwhile to describe Bloom's Taxonomy Model, which focuses on a brain level analysis. The Taxonomy aims to provide a better understanding of the cognitive style of learning and to analyse in-depth the process of how people learn cognitively and how it could be adapted for this research.

4.4.1 BLOOM'S TAXONOMY MODEL

Cognitive theory in education, as we discussed above, is concerned with a learner's ability in three main skill areas: remembering, processing and problem solving by emphasising what a learner acquires. Bloom's Taxonomy categorised learners' thoughts and objectives.

"It is a multi-tiered model of classifying thinking according to six cognitive levels of complexity" (Forehand 2010, p.42)

The attributes of Bloom's Taxonomy focus on three domains of learning, i.e. Cognitive (knowledge), Psychomotor (skills) and Affective (attitude). These were identified by Benjamin Bloom and his colleagues in 1956 (Bloom 1956). The Taxonomy was revised in 2001 (Solomon & Schrum, 2007). It is used to set learning objectives and classifies by categorising thoughts, i.e. 'thinking process' (Fee, 2011; Anderson, 2001; Bloom, 1956). The three domains of Bloom's Taxonomy categorize structure and stages of learning.

-
- 1- **Cognitive:** (*knowledge*) or mind skills, which apart from containing the knowledge base of the learner also improves his/her intellectual ability. One could argue in this category that thought would be divided into different levels of difficulty, thus, thinking must be gradual (Bloom, 1956).
 - 2- **Affective:** (*attitude*) refers to the treatment of things emotionally, such as, principles, beliefs and attitudes (Bloom et al. 1984). In other words, it is the learner's attitude to issues.
 - 3- **Psychomotor:** (*skills*) was finalised for the Taxonomy by Dave in (1975)⁴⁹. This domain deals with skills, such as, physical actions and the benefits that may be acquired from motor-skill areas.

Bloom's Taxonomy has been applied to a variety of situations within learning environments. Fee (2011) and Draper (2011) suggest six ways that the three main domains could be used within learning environments.

1. How to promote learning objectives via activities, e.g. possible activities to develop remembering skills could be lists and labels and social networking via searches (Churches 2009).
2. Ensure the preservation of harmony between activities and intervention in education.
3. *"It could be used to choose appropriate learner objectives to meet identified needs."* (Fee 2011, p.27)
4. How learners learn.
5. Preparation for intervention into learning by an analysis of learning needs.
6. Assist instructors to design course materials so that their objectives are consistent with those used by different levels of the Taxonomy, e.g. one objective is 'to understand any issues' so the instructor should aim to recall the requisite knowledge to shift a learner's understanding.

⁴⁹ *"He seems to have been one of Bloom's students"* (Draper 2011)

4.4.1.1 Bloom's cognitive elements

With regard to the cognitive domain, Bloom's Taxonomy categorises the different levels of thinking skills and objectives that could be achieved. The Taxonomy is the first attempt to methodically organize levels of thinking (Forehand 2010). Academics can use the framework in education (Anderson 2001). For example, Bloom's Taxonomy can be used practically in education to manage content. Furthermore, the Taxonomy "*described learning in six cognitive demonstrations*" (Ibid p. 35) in terms of a hierarchical structure from the lowest to the highest level, i.e. Remembering, Understanding, Applying, Analysing, Evaluation and Creating. Figure 8 shows the different levels of Blooms Taxonomy including examples for each level.

The assumption that this model follows is based upon the concept that 'you are not able to understand (e.g. explain any concepts) unless you remember it (e.g. memorize this concept or its related variables) and equally you are not able to apply (e.g. operate) any practical work unless you are able to understand it (e.g. classify)'.

One could argue that some learning tasks do not need or are not required to transverse every level of the Taxonomy. This contradicts the belief that learners differ in their ability to learn skills (Au 1997). Churches (2009) agreed but he redresses that Bloom's different levels of elements are not obligatory, as the Taxonomy could be used by starting at any point. He said,

"While Bloom's in its many forms, does represent the learning process, it does not indicate that the learners must start at the lowest taxonomic level and work up. Rather, the learning process can be initiated at any point."(p. 2)

The Taxonomy brings to education the idea of low and high level thinking. This provides a connection with multiple intelligences through which, for example, critical thinking, problem solving skills and recently technology have become integrated (Noble 2004). The Taxonomy provides a model for cognitive improvement and

consequently enhances the understanding of knowledge content. This involves, remembering or acknowledging particular facts, procedural styles and concepts that improve intellectual skills and abilities. This researcher could argue that these categories of thought would be divided into different levels of difficulty, thus, thinking must be gradual (Bloom, 1956; Anderson, 2001).

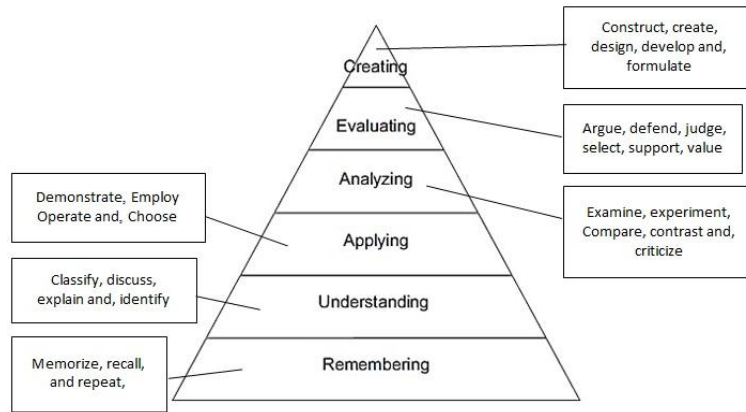


Figure 8: Bloom's Taxonomy of Cognitive elements (revision version) with example for each level.⁵⁰

The experience of this researcher shows, from nearly eight years as an instructor and lecturer in elementary schools and teacher training colleges and as a post-graduate learners, that few modules exist that guide one how to adopt educational objectives by determining learners thinking using Bloom's Taxonomy levels. It is possible to measure learning outcomes within the three main domains of the Taxonomy, i.e. knowledge, skills and attitudes. Nevertheless, when this researcher first negotiated learning environments as a practitioner (at elementary school and higher education) he found that the education system had not catered for the higher levels of Bloom's Taxonomy, i.e. for the analysis and evaluation elements. In Saudi Arabia, some knowledge content has been adapted according to the first three stages of Bloom's cognitive elements, i.e. remembering and understanding. One reason for this could be

⁵⁰ http://ww2.odu.edu/educ/roverbau/Bloom/blooms_Taxonomy.htm in (Churches 2009)

that materials and knowledge content are based on textbooks. In addition, there is little assistance available for teachers to develop the appropriate skills due to the lack of teacher-guide books. Furthermore, education in the classroom is based on cognitive ability, for example, an instructor's explanation of the material is dependent on knowledge aspects and how to deliver it to students and, therefore, instruction is instructor-centred. Nevertheless, in Saudi Arabia 70% of the marks were exam based while the remaining 30% counted towards evaluation during the semester. This has now been changed. Education institutions now recognise the importance of how to address and customise knowledge in order to improve the skills of learners with respect to the higher levels of Bloom's cognitive elements, e.g. critical thinking.

Bloom's Taxonomy in practical terms is used a guide for instructors to determine at what level of cognition they attempt their activities with their learners. The Taxonomy has also been very helpful in resolving a variety of other issues and different situations (Forehand 2010). For example, Wang (2012) found from analysing the outcomes of his study that *"only the educational objectives of remembering, understanding and applying can be achieved"* (p.163). From this result, he rebuilt the objectives of the modules so that a higher level of the Taxonomy could be achieved by his students. He indicated that Bloom's Taxonomy was inspiration in terms of,

"Rewrote the learning outcomes and renewed the assessment format and the marking criteria, trying to achieve the educational objectives of Bloom's Taxonomy."(p.62)

Forehand (2010) supported Wang's outcome. He claimed that Bloom's Taxonomy offers practical levels with a clear vision for the instructors to be more adjusting between criteria, objectives, activities and module goals. With regard to eLearning, Bloom's Taxonomy could be adapted to assist learners to progress towards critical thinking skills, i.e. the analysis and evaluating elements. In addition, Goh (2010) found

that eLearning via web 2.0 motivated learners to develop critical thinking skills. He argued that by using eLearning, learners are able to build their own knowledge and integrate it with their previous experiences and interactions with the tools they used. Furthermore, engagement with eLearning activities, e.g. posts, discuss and content contributions via eLearning tools offer very good opportunities for support and enable learners to build their own reasoning so that they are able to restructure concepts. Thus, eLearning activities facilitate a learner's thinking via Bloom's Taxonomy. This is a valuable concept, because through eLearning, learners are provided with the opportunity to discuss, share and exchange ideas (in accordance with the claims of educational theories) to raise the level of their thoughts from understanding to evaluating (see Figure 8 for an example). Consequently, experience is accumulated. The learner acquires a variety of skills, concepts, new information and diverse visions. The concept that experience affects the learning process has become a major issue for constructivists and it is discussed in detail in the next section.

The learners' mind has largely been the concern of Cognitivism Theory rather than their behaviour in Behaviourism Theory. This neglects the role played by behaviour during the learning process. The mind's cognitive processing of knowledge could be described as a processing of information, once it is received by the mind, with an interest in its outputs as an active brain.

This research considers Bloom's Taxonomy as a model that is able to assist in defining the influences of integrating web 2.0 via blogs with a learner's cognitive processes (Goh 2010). It has been indicated that Bloom's Taxonomy "*seems particularly suited to evaluate the learning of students involved with wiki, blog and online discussion.*" (Meyer 2010, p.229) This research aims to acquire a comprehensive understanding of learners' thinking processes and it attempts to understand the rules and the effects of

activities upon learner's opinions due to their engagement with web 2.0 via blogs. In addition, the intellectual orientation brought about by interactions through web 2.0 via blogs will be considered.

4.5 CONSTRUCTIVISM

Constructivism was established during the 1980s and 1990s as interest in behaviourism declined (Liu and Matthews 2005) and it has become one of the most popular theories of learning (Ullrich et al. 2008). It heavily relies on Piaget, Bruner and Vygotsky's work on equilibration, which is derived from cognitive constructivism (see the previous section 4.4). It is based on the

"Principle that knowledge is created from experience. One key characteristic that distinguishes constructivism from other learning theory, such as, behaviourism and cognitivism is the nature of reality. The constructivism learning paradigm emphasizes that there is no single or objective reality "out there", which the instructor must transmit to the learner."(Almala 2006, p.34)

Learners here begin to exert more control and announce explanations to a degree that accords with their ability to learn. This ability is also related to culture (Yang 2003).

This theory perceives learning in two different ways.

1. Its psychological perspective focuses on the concept that learning is an active process, which is emphasised by Bruner. Here the learner makes sense of his/hers experiences, for example, by interacting with others or with objects (Fosnot 1996).
2. Its philosophical perspective perceives the world subjectively not objectively in reality. This means that reality is based on accumulated experience and a personal perception of procedures or processes (Von Glaserfeld 1990).

According to constructivism, new knowledge results from constructed activities generated by learners. This means that learners unify what they know with what they learn "*Rather than providing didactic instruction and expecting students to repeat facts on test*" (Solomon and Schrum 2007, p.35), i.e. behaviourism. The process of the learning by *constructivism*, therefore, directs instructors to focus on and provide collaborative

learning environments, emphasize exploration and discovery and engage with learners to make them access their personal explanations/interpretations about any subject (Solomon and Schrum 2007; Ullrich et al. 2008). Furthermore, learning styles currently, “*incorporates more participation, collaboration and flexibility in creation, adaptation and use of learning materials*” (Rogers et al. 2007, p.20). Whereas constructing knowledge in *social-constructivism* builds on the significant impact of culture and context that surrounds any subject. This means that the result of learning is influenced by different variables, such as, culture (Kim 2001). Constructivism

“... views learning as an active process of building knowledge and skills through practice within a supportive community. It comprises not only a process of continual personal development and enrichment, but also the possibility of rapid and radical conceptual change” (Taylor 2009, p.5)

In addition, learners themselves make sense of their experiences by interaction with objects, especially with those that lead towards attractive knowledge and information. Constructivism, further, describes how the process of learning prepares an outline for learners to collaboratively interact with different aspects associated with different issues (Bruner 1977). From this point, because of Vygotsky’s early investigations, the concept of constructivism evolved to include a ‘social’ aspect, which is conceded as a fragment of knowledge. Here the instructor ‘should’ form part of the learning process and ‘act as a co-assistant’ rather than dominate it and ‘act as a taskmaster’ (Vygotsky and Rieber 1997).

4.5.1 BOUD’S MODEL FOR REFLECTING LEARNING

Boud (1994) asserts that the process of learning is thought-based and depends upon a learner’s previous experience with their activities (see Figure 9) He said,

"...learning is always rooted in prior experience and that any attempt to promote new learning.....the process of learning from experience is necessarily an active one, which involves learners in engaging with and intervening."

The word ‘intervening’ means that learners are part of any learning activity or event.

Boud’s model includes three main stages:

- **First stage:** prior experience is composed of three aspects:
 - Learners’ previous experiences with his/her intention
 - The learning milieu or “atmosphere”
 - Learners skills or strategies, i.e. the style of learning
- **Second stage:** concerns the learning experience itself, i.e. the learning activities and interactions. This stage includes three aspects:
 - Intervention, i.e. a learners’ responses to activities
 - Noticing, i.e. a learners’ awareness to, e.g. learning environments
 - Reflection-in-action, i.e. a consequence of noticing and intervention with respect to the learner
- **Third stage:** concerns a reflective process, i.e. learners will re-evaluate their practice and experiences.

The model focused on the significant effect of different levels of previous experience upon learners’ responses, which emphasizes Vygotsky’s thoughts about the importance of interaction through experience (previously discussed). Boud’s model stresses the importance of sharing experiences and communication for reflecting upon practice as shown by figure 8 below.

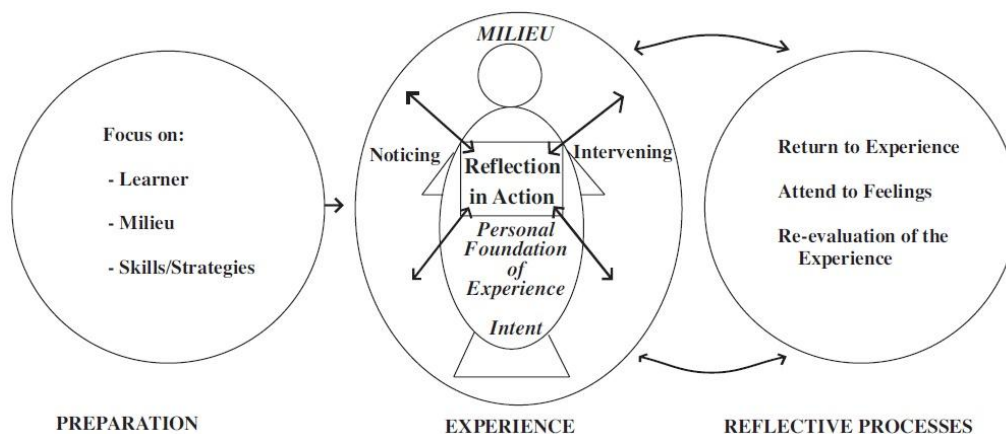


Figure 9: Boud’s model of reflection in learning, in (Boud 1994)

In addition, Boud et al. (1985) asserts that feelings, i.e. learners' attitudes could include or affect experiences that involve the maximum use of any positive experience and avoid negative feelings. The above researchers claim that determining those factors may provide an opportunity to evaluate experience and thus the chance for better learning. Boud said the basic assumption of his model claims that

“Learning is always rooted in prior experience and that any attempt to promote new learning must in some way take account of that experience” (Boud 1994, p.51)

Finlay (2007) has different vision. He argues that the problem with Boud's model is that it limits reflection on learning to a retroactive process, in terms of “*reflection-on-action rather reflection-in-action*” (Ibid p.3). Moreover, reflection is concerned with the individual's activities rather than the wider picture for learning elements. For example, in the case of social interaction, there is a possibility that the feeling embraced or affected by the social aspect will divorce this model from its association with constructivism (Vygotskiï and Rieber 1997; Ally 2008), where “*knowledge is constructed in a social and cultural context*” (Densten and Gray 2001, p.120) and that is neglected by this model.

4.5.2 DIFFERENT VISION WITH GAINING KNOWLEDGE

Another issue that relates to constructivism is how learners gain knowledge ‘how to learn’, whether they use their ability to understand concepts or through the results of a constructed processes. Furthermore, the constructed knowledge or skills could originate from accumulated experiences or concepts that include remembering and analysing (Behaviourism and Cognitivism). Consequently, the design of learning should be based on or include collaborative learning and the sharing of knowledge. Three different visions form constructivism:

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- **Firstly**, it emphasises learner-centred and analysis-oriented learning procedures, which focused on learners' requirements and rely on Piaget's vision (Ullrich et al. 2008).
 - **Secondly**, the persons affected by the social context need to be considered according to Vygotsky vision (Vygotsky and Rieber 1997). This vision focuses on the function of the social environment in the learning process. Here, knowledge is viewed as a social construct and instructors act as co-collaborators with learners rather than taskmasters.
 - **Thirdly**, learning is considered an active process, which relies on Bruner's vision. Here the learner's knowledge is based on her/his personal concepts and are affected by internal cognitive structures, i.e. previous experience (Bruner 1977; Boud 1994).

The differences between the educationists and psychologists in terms of cognitivism predicates on the effects of the concepts of motivation and emotion (Eysenck and Piper 1987). Psychologists "*Failure to manipulate motivational and emotional states means that they do not know whether cognitive performance is affected by motivation and emotion.*" (Eysenck and Piper 1987, p.215). To the contrary, the educational theory of constructivism states that learning is based on a range of accumulated knowledge, commonly built up within a social perspective. In addition, the role of the instructor changes as learners assume more control over their learning in a social environment. Ullrich and his colleagues (2008) stress this issue. They said,

“In constructivism, the control over the learning process shifts from the teacher to student, with the learner playing an active role in the learning process. Learning takes place in context and in collaboration and provides opportunities to solve realistic and meaningful problems.”(p.706)

Learning, therefore, is constructed and reconstructed supported by a learner’s interests and his or hers prior knowledge. The role of the instructor focuses on assisting and preparing activities and acting as a learning advisor (Ibid).

The learning process in constructivism is continuous, which means that each new concept is based or reliant on previous knowledge or experience. Sometimes learners could possibly acquire knowledge by a process of assimilation in the absence of the relevant ground knowledge (Cognitivism). Resnick (1989) claims that the possibility exists to acquire knowledge based on interpretation while ignoring cognition by purely remembering and repeating information. He describes learning using three concepts derived from constructivism theory.

“First, learning is process of knowledge construction, not of knowledge recording or absorption. Second, learning is knowledge-dependent; people use current knowledge to construct new knowledge. Third, learning is highly tuned to the situation in which it takes place.”(p1).

Hoover (1996) proved and emphasises that period knowledge is a consequence of new understanding when novel information (new knowledge) is received in terms of constructivism. Further, he discovered that learners accommodate new experiences when current and new knowledge are inconsistent. It is the learner’s own understanding that is the key for constructivism knowledge. In this regard, Ally (2008) has compromised thoughts. He emphasised that there is a possibility to use theories, such as, Bloom’s Taxonomy. He explained that learning could combine the three types of theory; Behaviourist Theory to teach ‘what’, Cognitive Theory to teach ‘how’, e.g. steps, process and principles and Constructivist Theory to teach ‘why’. This approach

would lead to an improvement in higher thinking because it “*promotes personal meaning and situated and contextual meaning*” (p.20).

The concept of constructivism has been criticised during its early stages of development because it seems to focus only on learners as individuals. At this point, the concept is graded in later stages of cognition, which can be recognised by the adaptation of new information with new experiences that lead to understanding. The critics ignored the social perspective, e.g. collaboration and interaction in peer activity, which comes later (McLoughlin and Oliver 1998; Kim 2001). By the same token behaviourists and constructivists almost overlook the influences of the social content within the educational situation (Liu and Matthews 2005).

4.6 LEARNING THEORY CONCEPTS AND ELEARNING

The three main schools of learning theory can be used as a taxonomy to improve the acquisition of knowledge (Mishra 2002; Hoover 1996). Such taxonomy could use interrogation to teach the ‘how’ for principles and processes, which reflect cognitive theory. Behaviourist theory could be used to teach the ‘what’ for evidence and the ‘why’ in terms of encouraging higher-level thinking and practice. A number of learning concepts are raised by the development of these theories when they become associated with practical empirical work, particularly web 2.0 via blogs (see chapter 1, section 3.3.2). These concepts are described below.

- i. ***Cooperative learning via a group of peers***: Constructivism indicates that interaction between peers is an essential element for the ‘information construct’. This construct is developed by the social interactions of learners when they act cooperatively to share experiences. This develops cognition and so improves critical thinking (Goh 2010; Ahern-Rindell 1999). Sharing information and ideas are major factors that enhance learning (Lazarowitz and Hertz-Lazarowitz 1998; Alhojailan 2012c). In terms of utilizing web 2.0 in classrooms, cooperative learning often comes about when learners

associate in groups during website activities and this leads to improvements in critical thinking (see chapter 2, section 2.4.3). Web 2.0 elevates learners to the role of contributors via ‘user control’ to provide information ‘content’. The software often relies on learners’ own experiences or knowledge, e.g. via blog activities and wiki (Miyazoe and Anderson 2012) rather than completing particular tasks with others or working with a group of learners guided by a leader (Sharan and Sharan 1992). This system thus supports the principle of learner-centred learning (see the earlier discussion and the following point iii). Cooperation, therefore, is the main key that provides web 2.0’s blog tools (Alhojailan 2012c; Lin et al. 2006; Kim 2008; Ocker and Yaverbaum 1999; Nichols 2003). Blogs support interactions with peers (Williams and Jacobs 2004) as they could be implemented as “*community centred online space*” (Kang et al. 2011, p.233).

- ii. **Communication:** It has been claimed that the relationship is strongest when learners and instructors communicate, exchange knowledge and experiences to enhance learning (Mayer 1996; Eysenck and Piper 1987; Boud 1994). Interrogation supports learners cooperative learning in peer or group activity (see section 4.4 and the previous point). In addition, asynchronous communication, i.e. the style used in this research with ‘collaboration’ tools in eLearning provides website environments that the instructors and learners are able to share and exchange knowledge at any time and at location or independent sites (see chapter 2, section 2.4.2 and the different types of communication that blogs can provide in chapter 3 , section 3.3.2). It means that learners and instructors have the ability to work together at different times and in different places so conferring an advantage for utilizing web 2.0 in learning (see chapter 3, section 3.3.4 third point). Participation flexibility through web 2.0 via blogs enhances different strategies of learning (see chapter 3, section 3.3). The tool to be applied in this research is a blog, which is expected to “*Provide a means of ongoing communication with other group members.*” (Poling 2005, p.15)

iii. **Interaction:** Dewey (1938) describes a learning experience as a “*transaction taking place between an individual and what, at the time, it constitutes*” (in Garrison and Anderson 2003, p.41). This statement highlights the importance of the interaction between different persons and non-person actors that form part of the environment, i.e. social context. This establishes a social venue for sharing and exchanging experiences, i.e. socio-interactions (see section 4.5). Interaction is defined as “*Reciprocal events that require at least two objectives and two actions. Interactions occur when these objects and events mutually influence one another.*” (Wagner 1994, p.8)

Furthermore, diverse methods of interaction could be applied in education via web services in three main ways (see Figure 10 below). This will include different types of interactions with their resources, instructors and learners (G. Moore 1989).

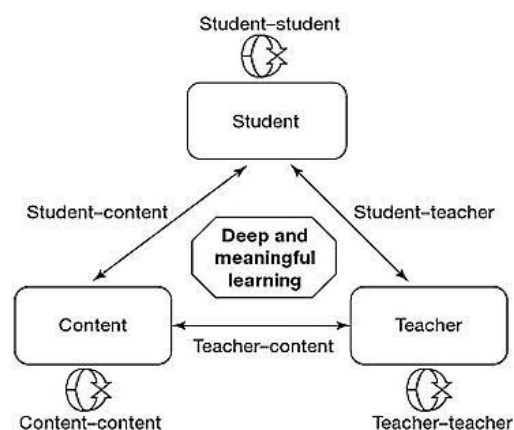


Figure 10: Modes of interactions (Garrison and Anderson 2003, p.43)

- **Student-content-interaction:** This interaction relies on the content provided via online facilities, i.e. discussions about the process of the interaction through, e.g. blogs that could act as a medium for examining and exchanging thoughts and responding to ideas between the participants. Here ‘content’ plays a pivotal role (mentioned in chapter 3, section3.2, in paragraph 4). The value of ‘content’ is that it motivates learners to become interactive. Web 2.0 gives learners the tools by which to become involved and easily share diverse resources that pertain to content. In another perspective analysis of contributed content via blogs would mainly provide instructors with guide lines to analyse the different cognitive levels of

learners and the ability to determine the level of their critical thinking (for more information see chapter 3, section 3.3.4 (Lin et al. 2006, Divitini et al. 2005).

- **Student-teacher-interaction:** This interaction is described as an asynchronous approach (see chapter 2, section 2.4.2). This type of interaction includes not only websites but also face-to-face interactions (F2F). Here, instructors are responsible for encouraging and motivating learners. Feedback from the instructor may prove insufficient as F2F interaction could result in the underuse of the interactive potential of websites (Garrison and Anderson 2003). When utilising blog tools in higher education, learners mainly become involved with instructor interactions to seek feedback, knowledge and motivation (Garrison and Anderson 2003; Solomon and Schrum 2007; Alhojailan 2012c)
- **Student-student-interaction:** This type of interaction supports social communication in learning in terms of providing and enhancing collaborative learning styles to build a rich body of knowledge via learners themselves (Garrison and Anderson 2003). Further, this type of interaction brings about ‘cognitive conflict’ because it encourage learners to explain, understand, elaborate and address substitute visions as a consequence of interactions between peers (for Piaget vision of cognition, see section 4.4). It has been observed that blog tools offer an environment for interaction between learners, especially between peers (see chapter 3, section 3.3.3). Recent technological developments have enabled web services to support interactive learning among groups, peers or individuals in their communications and activities with content and non-human resources during eLearning (Garrison and Anderson 2003). Furthermore, eLearning supports instructors and learners by stressing the importance of interaction in the learning environment via e learning tools, i.e. web 2.0 via blogs

(Ibid; Alhojailan 2012) as teachers and learners “*use blogs to empower their social interaction with people*” (Sim and Hew 2010, p.154). ELearning enhances different types of learning styles, such as; collaborative learning, guidance and motivation (see the previous points and the summarising study in Appendix J).

- iv. **Critical thinking:** It is associated with a learner’s own thinking and analysing. Cognitive theory presents this perception in terms of the access that enables a learner to enter the higher stages of analysis, which allows one to integrate their experience with previous knowledge, i.e. ‘construction knowledge’ (see section 4.4 and, 4.4.1.1). There is evidence that learners construct their own critical meaning by restricting new concepts with prior and current experiences (see section 4.4.1.1 and in the study of Goh 2010). Critical thinking “*Includes the acquisition of deep meaningful understanding as well as content-specific critical inquiry.*” (Fadel 2007, p.17) Bloom’s taxonomy measures learner interactivities with their intellectual patterns of analysis (see section 4.4.1.1). In this study, the possibility that blogs would be involved to improve critical thinking for learning is considered.
- v. **Attitude:** The importance of attitude is that it constitutes a centre for the future development of a learner’s acceptance. Dewey’s contributions to this area have been extended by the Boud Model (1994). Boud stresses the importance of a learner’s reflection during their re-evaluation of a new or current learning experience. The learner could enter into a greater level of reflection about new knowledge or the effect of his or hers attitude towards it (see section 4.5.1). Dewey (1933) felt that reflection included skills with attitude, as a consequence of the acts sharing and communicating (see point ii in the previous discussion) (Chan 2007). Attitude has been defined as “*The degree to which the individual favours the behaviour being examined.*” (Ajjan and Hartshorne 2008, p.73)

User satisfaction is a major factor that is used to measure the successful adoption of technology by individuals (Hamilton and Chervany 1981). Furthermore, because of the significant impact of a user's perception, the Technology Acceptance Model (TAM) has been adopted by this research to identify a learner's acceptance and perception due to the use of computer based information, i.e. internet usage (Chen et al. 2007; Davis et al. 1989). The TAM "*Models user acceptance of an information system with the aim of explaining the behavioural intention to use the system.*" (Chen et al. 2007 p.303) See figure 10 below

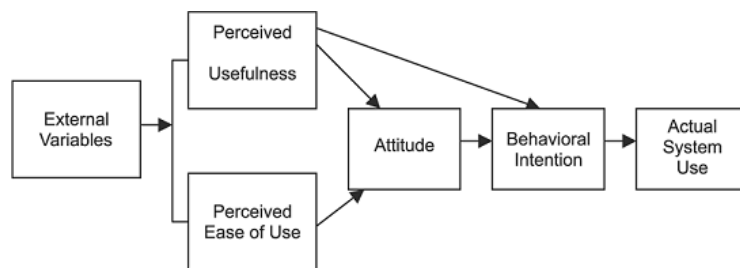


Figure 11: Technology Acceptance Model (TAM), from (Davis 1989)

The TAM includes the concepts of Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), which affect the attitude towards Behavioural Intention, Behavioural Intention to Use and Actual System Use, which are preceded by External Variables. PEOU and PU are the two main elements in this model and positioned where they could predict the attitudes of users (Davis et al. 1989; Davis 1993). PEOU is described by Davis (1989) as "*The degree to which a person believes that using a particular system would be free of effort.*" (p.320).

PU is described as a person's belief when trying to use a particular technology, e.g. the Internet, which will enhance his or her performance, skills or work. Further, an individual's view plays a main role in his or her perception. PU is used to measure 'computer usage' through its applications and programmes within a particular environment, which promotes a very specific use for this concept. The TAM has been criticized in that it ignores the social effects on the acceptance of technology and this limitation should be noted (Chen et al. 2007). With regard to that, researchers should integrate other models that considered social and human effects upon attitude.

With respect to web 2.0 usages in higher education, it has been found that learners consider the pros and cons of adopting any technology in their learning environment, which is one of the main elements of the TAM, i.e. Perceived Usefulness (PU) (see chapter 3, section 3.2). This is in addition to the other fundamental elements of the model. Ease of Use is one of the main features of web 2.0 (via blog tools) that has accounted for its growing use within learning environments (see chapter 3, section 3.3.1). Linked to that, Perceived Ease of Use (PEOU) possibly affects and influences learners' attitudes (a major factor investigated by this study) due to Internet usage. In addition, the possibility of influencing a learner's attitude toward PU and PEOU is considered by this study. The study's theoretical basis and the results of the empirical research have been discussed in chapter 3, section 3.3.2 (e.g. Alhojailan 2012a; Solomon and Schrum 2007).

- vi. **Activities:** The important of 'activities' within a leaning environment became manifest during the development of Cognitive Theory following Constructivism theory (see section 4.4 and, 4.5). The process starts by considering the potential of learners to learn in conjunction with others during which the importance of designing the learning style becomes apparent (see section 4.4 above). The design of the activities forms the education style and is supported by the underlying educational theories. For example, developing tasks and activities that support cooperative learning enhance the ability of learners to exchange experiences. In addition, Wang (2012) found that the style of activities he wrote enabled him to elevate participants' perceptions from understanding and remembering in Bloom's Taxonomy to higher levels (for more information see section 4.4.1.1). With regard to the utilization of web 2.0 for learning, it provides the required potential via different services, e.g. blogs and Wiki for "*facilitating teaching and learning activities*" (Fard et al. 2010, p.567). Web 2.0 encourages learners to participate collaboratively by working through it and adapting different connection

styles that enhance a learner's ability to choose whether to engage in learning as an individual or within a peer group (e.g. see chapter 3, section 3.3.3).

- vii. ***Exchanging and sharing experiences:*** Vygotsky was the first to recognise the importance of social interactions in his late work when he identified socio-cognitivism (see section 4.4). The Boud Model considers that one feature of constructive learning arises because learners' reflections are integrated with prior experiences, which are subsequently extracted to develop new experiences and concepts (see section 4.5.1). Furthermore, it has been argued that the mutual exchange of prior experiences between learners has resulted in a positive association culminating with the acceptance and utilization of technology, e.g. websites (Boud et al. 1985; Davis et al. 1989). In addition, learner's interactions with web 2.0 via blogs involve their own contributions and over numerous sessions these contributions overlap with the experiences and knowledge gained from others and website content. Furthermore, exchanging and sharing experiences is enhanced by the use of blog tools, the support of instructors and by the learner's ability to provide and contribute towards interactions that could manage the retrieval and exchange of experiences within the educational environment. Contributed knowledge, therefore, is often and inevitably social (for more information see chapter 3, sections 3.3.2, 3.3.3 and, 3.3.4).

4.7 LEARNING THEORIES AND CONCEPTS WITH WEB 2.0 IN THE LEARNING ENVIRONMENT

Following the literature review, the three learning theories (Behaviourism, Cognitivism and Constructivism) were discussed together with Bloom's Taxonomy for constructed cognitive notions, the Boud Model for the impact of prior-experience and behaviour intention and the TAM model for acceptance of technology in terms of external variables together with 'Ease of Use' with 'Usefulness' for technology acceptance. Furthermore, taking into consideration the important points that been abstracted from the relevant empirical studies in chapter 3, sections 3.2.1, 3.3 and, 3.3.4 , the present

researcher considered the interrelationship between these theories and models with the current research's empirical work. From these deliberations, an intersecting assistance framework was constructed that enabled concepts to be considered by this research. The new technology via web 2.0 was found to promote new learning techniques and facilitate the construction of knowledge (Du and Wagner 2005). Table 2 is a summary of the main assumptions and the differences of the three main pedagogical theories and their relationship to the applications and strategies that could be utilized via web 2.0's blogs. These strategies and styles could link together to identify and explore learners' perceptions in order to regulate how the learner learns, perceives, the value of their actions and interactions and how one can measure that and compare it to their observable behaviour and attitudes toward the use of web 2.0 via its blog tools. Such an approach would promote further investigation into learners' attitudes, interactions and perceptions in terms of their cooperative behaviour and the impact of shared experiences.

Learning Theory	Assumption	Web 2.0 application	This research
Behaviourism	<ul style="list-style-type: none"> - Can be strengthened and reinforced by affective positive/negative feedback. - Act of learners has been considered. 	<ul style="list-style-type: none"> - Step by step teaching and learning material for any series of topics, e.g. maths. - Developing skills through particular constructions, e.g. improving spelling and writing skills 	<ul style="list-style-type: none"> - Actions of learners are valuable in terms of their responses,
Cognitivism	<ul style="list-style-type: none"> - Learner evaluation can be achieved by observable behaviour. - Focused on the cognition of a learner's processes - Emphasises content-centred learning 	<ul style="list-style-type: none"> - Delivers knowledge by content Improves critical thinking via dialogue and discussion - Peer-assessment of learning - Creates groups to contribute knowledge 	<ul style="list-style-type: none"> - Learner contributions and analysis of content can be achieved via their post and comments. -Learners' critical improvements with regard to Bloom's Taxonomy -Increase higher-order thinking skills.
Constructivism	<ul style="list-style-type: none"> - Social setting affects the learning process more - Emphasises learner-centred learning - Emphasises interaction between peers, which is supported by co-operative learning - Active learning is achieved and new knowledge is constructed Importance of prior experience - Interactions take place between learners and the content itself. - Developing a learner's ability to connect to solve life issues 	<ul style="list-style-type: none"> - Communication to practice for a project -Supporting learning group projects, e.g. Wiki or streaming media via YouTube and blogs - Present subjects for discussion thus promoting interaction leading to the sharing of ideas, which results in the exchange of thoughts, e.g. through blogs 	<ul style="list-style-type: none"> - The possibility to promote interactivity - Improve interactions by developing communication between students, their teachers and content. - Accumulate knowledge thus constructing meaning.

Table 2: The main assumption of the pedagogical theories of Behaviorism, Cognitivism and Constructivism by giving an example of different applications of web 2.0 via blogs could be applied (see summaries from sections 4.3, 4.4, 4.5 and 4.7 with Chapter 3 section 3.3.3, and Appendix J)

In addition, as previously discussed, these theories and concepts have been used as guidance to build instructional practices for utilizing web services via blogs for learning purposes (Wang 2012; Hamat and Embi 2010; Mishra 2002). Further, it has been claimed that the three main theories of learning could be used to design learning

pedagogies by integrating web services in an asynchronous style (Huang 2002; Au 1997; Goh 2010). This is investigated by this research. Significantly, Mishra (2002) developed a framework model that is “*useful in online delivery*”(p.496). The model’s ideas are in line with the thoughts of Hoover (1996) and compatible with the above discussion. The model’s basic assumptions rely on the fact that the three theories, which are grounded within its concepts, can be integrated into one scheme. This is especially important if integrated web services are to provide comprehensive learning environments (see adapted model in Figure 12). In our research, this integration makes this framework very attractive and practical. It uses every beneficial and suitable concept that is associated with the characteristics of the web 2.0 via its blogs to build the research’s framework with the theories and concepts that been discussed. In this adopted model, all the points addressed in boxes 1, 2 and 3 have been considered by this research.

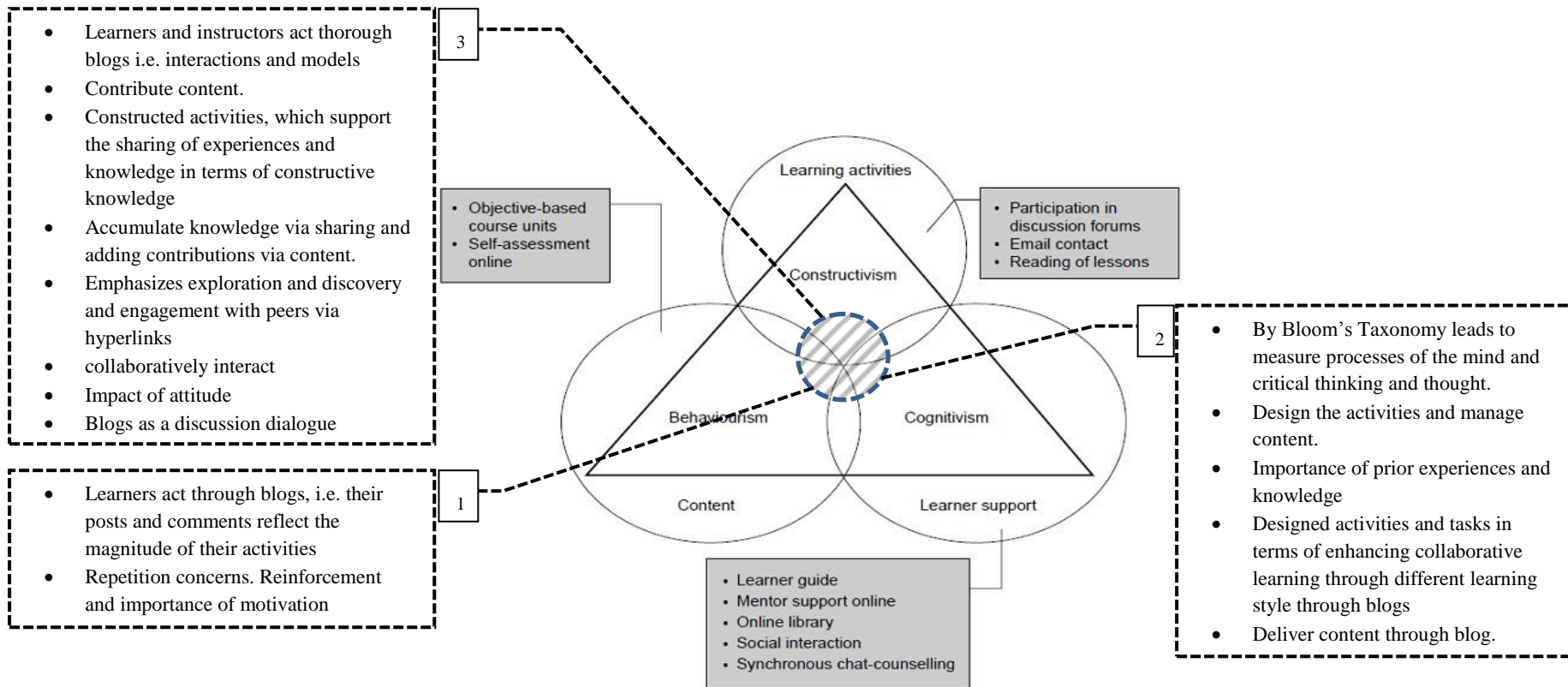


Figure 12: Adapted model that includes all concepts that comes through linkages that rely on learning theories, models and concepts with the outcomes of the potential practicing of Web 2.0 via blogs in higher education (see the model by Mishra 2002, p.494) with (K. K. Chan 2007; Alhojailan 2012a; Alhojailan 2012b; Goh 2010; Williams and Jacobs 2004; W.-J. Lin et al. 2006; Downes 2004; M. J. Wang 2010; W. C. Chen and Bonk 2008; Forehand 2010; D. Boud 1994; Solomon and Schrum 2007 and section 4.7)

This research aims to explore the perception of learners' attitudes, concepts and reflections due to the utilization of web 2.0 via blogs within the learning environment by identifying the factors that could influence the implementation of blog tools. Furthermore, the research inquires into learners' actions (i.e. behaviours). This involved observing their interactions, responses and perceptions towards knowledge with respect to their critical thinking. Cognitivism measures any improvements in their thoughts, perceptions towards knowledge and attitudes with respect to the impact of other variables, e.g. the culture that surrounds the learning environment. Constructivism, e.g. measures interactions and the impact of culture. Consequently, this research concentrated its efforts into that while learning theories, despite having their own characteristics complement one another (see section 4.3, 4.4 and 4.5). Furthermore, since the blog utilized by this research depends upon discussions and responses about contributed content it demands more from constructivist concepts compared to those of other learning theories.

In addition, with regard to Figure 12, this research focuses on the Venn diagram in Figure 12, more specifically, number 1, 2 and, 3. For example it states in number 1, Figure 12 that the *"Learners act through blogs, i.e. posts and comments reflect the magnitude of their activities."* This means that learners respond and act through blogs during experiments (Perschbach 2006). Another example from number 2 said, *"By Bloom's Taxonomy leads to measure process of the mind and critical thinking thought."* This pertains to improvements in learners' critical thinking (e.g. Chang 2008). In a final example from number 3, the participant mentioned that blogs, *"Emphasize exploration and discovery and engage with peers via hyperlinks."* This research will observe how learners deal with interactions that are received from different resources (Cunningham and Duffy 1996) and peers via blogs and its

associated services (Williams and Jacobs 2004). This will be discussed in detail in chapter 7, sections 7.4.3 in Table 10 and chapter 8 sections 8.2.2, 8.2.3, and 8.4.1.

4.8 CONCLUSION

This chapter highlighted that leaning theories and concepts are related in this research. It described and discussed the main assumptions for each learning theory, model and concept and the impact upon them when web services are used in learning environments. Each theory and concept offered its own explanation, which included their meaning, reliability and differences.

It has been found that the learning process relies on many variables that affect the integration of web 2.0 via blogs in higher education, e.g. cooperative learning, interaction and critical thinking (see section 4.6). All of these processes have been subjected to practical and experimental studies that considered the impact of eLearning via blogs upon them. This chapter concluded that the three main theories, i.e. Behaviourism, Cognitivism and Constructivism with their various related concepts could integrate into one framework that could assist this research to attain its aims.

The next chapter will discuss these findings and examine the outcome of the data, results and issues constructed during this study. A final theory of the factors that affect the implementation of blog tools in higher education is described, which will include the attitude perception of the learners.

5 RESEARCH METHODOLOGY

5.1 INTRODUCTION

This chapter describes the research methodology that was adopted by this inquiry including the data collection techniques (instruments) that were used. In addition, the chapter will provide a justification for the chosen methodology and the instruments that were used to collect the data.

Conducting research in the field of education can be achieved by using a diverse array of approaches and philosophies. The suitability of a particular approach depends on the nature of the aims of the researchers. According to (Pring 2004), each of the methodologies available to educational research consist of certain characteristic features. Different methods require different types of investigations and inquiries in order to provide a better chance to reach multiple outcomes.

Generally, research requirements that often use particular techniques are based on three philosophies: ontological, epistemological and methodological (Guba 1990). A common feature of educational research is that a variety of research methods can be applied in order to successfully carry it out. It could be said that with the selection of a diverse philosophical model, research can be made adaptable so that meets the needs of different situations (Pring 2004). This chapter aims to discuss and justify the basic assumptions of the philosophies of research methodologies in detail together with the appropriately utilised instruments for data collection for this research, e.g. action research methods.

5.2 ONTOLOGY: WHAT IS REALITY?

According to Guba (1990), ontological inquiry appeals to the nature of reality. It has been defined as the study of being. It emphasizes the inquiry '*what is the nature of*

existence?”(Crotty 1998). There are two different types of ontology are considered. First is relativism, which means that there is consummate knowledge but there is a relevant value of subject in qualitative methods frequently used in this concept. The second is realism, this type is defined by Pring (2004) as,

“The view that there is a reality, a world, which exists independently of the researcher and which is to be discovered.” (p.59)

Primarily, realism tends to engage with quantitative approaches within research areas more often than qualitative ones. For instance, when the aims are to describe and illustrate any phenomenon in the environment, e.g. observing the acts of people or analysing dialogues of the activities via tools or instruments. This could, however, include three types of speech, which are: exploratory, cumulative and disputation within the framework of socio-cultural theory. In addition, the terms relativism and realism could be considered opposite in terms of the assumption of meaning of ontology with respect to the reality where the subject is associated with a particular position.

5.3 EPISTEMOLOGY: HOW IS THE KNOWLEDGE?

Ontology is concerned with the maturity of reality while epistemology assumptions are associated with the sense of ‘how’ is the knowledge. Epistemology is also based on how is knowledge created and evaluated (Halaweh et al. 2008). Jean McNiff (1993) claims that questions transmitted through epistemology commonly inquire into *“the knower and the know”* (p.22).

The scientific method of inquiry is frequently used to assess the objective reality that exists *“out there already”* in the universe, while the social constructivist view is *“constructed by human beings as they engage with the world they are interpreting”* (Crotty 1998 in Creswell 2003.p8). According to McNiff (1993) there are two

different schools of thought about the nature of knowledge. The first school holds that knowledge exists, i.e. it is already created waiting to be discovered. It means that the researchers explore something that somewhere exists and one gains access to this body of knowledge by researchers who wish to know. The second school has been presented by Polányi in 1958⁵¹ and Grene in 1969. They accepted that only some knowledge exists and resides within the individual knower. They claim that this is a more important structure of knowledge than the former type and called it ‘personal knowledge’, which enables researchers to discover unknown knowledge (McNiff 1993).

5.4 THE RELATIONSHIP BETWEEN THEORY AND PRACTICE

Theories give and produce the interpretation of different models or strategies already tested by practice. It seems that the relationship between practice and theory is correlation. For example, using implicit theories or strategies, researchers may derive a conclusion with something new and unintended, which leads to the development of a new concept or theory. In addition, both deductive and inductive methodologies conduct the relationship between theory and practice in terms of exploration theory. This occurs through practice. Practice may develop new aspects of theory. Theory should first be tested to confirm its validity before being considered for application (Bryman 2008). The ideas of constructed theory as components are due to the outcomes of the practices of researchers following research processes. Simply, the researcher takes a tested or proposed theory to obtain a finding via observation and as a result returns with new vision whereas the inductive process attempts to make an

⁵¹ Michael Polanyi, (1891-1976) was a Hungarian–British polymath who made important theoretical contributions to physical chemistry, economics, and philosophy (Wiki 2012c).

observation and perform an analysis first. The deductive method is viewed as a scion of the theory of epistemology that explores cause association can examine method of procedure (Khazanchi and Munkvold 2003, p.34). Research may combine these two methods. This depends on the type of research, whether the researcher attempts to test the theory with new assumptions or is aiming to examine new theory or concepts via practice. This parallel situation has to be determined by the researcher. Bryman (2008) said.

“As with “theory” in connection with the deductive approach to the relationship between theory and research, we have to be cautious about the use of the term of the context of inductive strategy too.” (p.12)

So, it is essential for researchers to carefully choose the direction that differentiates their study and direct an appropriate procedure. It is also important to know what the research methods aim to answer during the inquiry. In the education field, it has been suggested that practice should be based on structure with theories. Most practice is determined by theories, which means it needs to be tested then it becomes reliable for further research. In education, theories provide an interpretation of social interaction toward the world in diverse situations (Pring 2004).

A discussion of the above concepts directed the researcher to consider the research paradigm. The purpose of the next section is to discuss the three paradigms and justify the one most appropriate for this research.

5.5 RESEARCH PHILOSOPHY

5.5.1 POSITIVISM PARADIGM

According to the ontology considerations, research philosophy could be defined in terms of three main research assumptions: interpretivism positivism and critical. On the other hand, some researchers claim that research philosophy contains two

paradigms: positivism and naturalist. The reason for using the concept ‘naturalist’ instead of ‘interpretive’ and ‘critical’ is due to the capability of enforcement research of a physical nature compared to research of a social nature (Kumar 2005). Historically, positivism is linked to the 19th century by the French philosopher Auguste Comte⁵². He built the foundation for positivism philosophy. According to Oates (2006), the positivism assumption is “*about the nature of our world and how to find out about it*” (p.286). The difference between physical and social natures is not distinct. Cohen said,

“The term positivism has been used in such different ways by philosophers and social scientists that it is difficult to assign it a precise and consistent meaning.. (Cohen et al. 2001, p.8)

Oates (2006) identified five characteristics to distinguish this philosophy.

The first characteristic concerns the quantitative data analysis strategies, which preference mathematical methods, i.e. numbers diverted to description that lead to meaning, This is contrary to (Kumar 2005) who claims, “ *positivism lends itself to both qualitative and quantitative research.*” (p.13) When researchers aim to find answers to questions they may use both methods and they should be tested first to verify validity and the reality of the framework.

The second characteristic is objectivity. It means the studies stand on natural and objective methods based on the suggestion that the world could be measured and so discovered. The third is a hypothesis test. This kind of methodology could include examining theories to resolve an issue or develop a situation. The nature of the methods of the studies that have been reviewed by this research have proven to be based on empirical testing of models or assumptions. The fourth is measurement and

⁵² “French philosopher, a founder of the discipline of sociology and the doctrine of positivism”(Wiki 2012a)

modelling. The essentials of these methods in studies are based on: measurements, producing models and observing. Additionally, testing different models of theories and hypothesis frequently produce a single model or theory for a single concept. The fourth is universal law; the key for studies here is generalisation. Even with these specific characteristics this methodology becomes less applicable in terms of the social aspect, i.e. each researcher has his own vision of same situation.

Oates (2006) argues that “*different people see their worlds differently and their views and perception can change over time*” (p.289). This leads to make positivism a “plastic version” philosophy with which to understand the social world as it personally acquired. The researcher should integrate it with the action that is being investigated. Nevertheless, researchers from the late 19th century developed another research paradigm: interpretive and critical in order to conduct research into social issues in terms of the concepts and thoughts about any situation, which in turn refers to the nature of changing thoughts and perceptions (Cohen et al. 2011).

5.5.2 CRITICAL PARADIGM

Critical research is defined as “*social reality created and re-created by people*” like Interpretivism (Oates 2006, p.296) but in terms of (why) rather than (how). In addition, they go with the experience’s reflected by seen the world. For instance, if there is research into a social institution because they want to adapt some new information by integrating members into its system, critical research would aim to explain extensively (why) a certain way to interpret the result via these systems while the interpretivism would rather see (how) to classify the systems for better understanding. Critical research aims

“to focus on the power relation, conflicts and contradictions in our modern world, and help to eliminate them as cause of alienation and domination.” (Oates 2006, p.297)

Nevertheless, it seeks (with interpretation) to empower people, and identifying the relation between the theory and practices, also it could be seen as,

“a world view that consists of beliefs about the physical and social reality (ontology, social relations and human rationality), knowledge (epistemology and methodology), and the relationship between theory and practice”(Stahl 2008, p.2)

5.5.3 INTERPRETIVISM PARADIGM

The main word key of interpretivism is ‘social’. It could be described as understanding the social situation by human interpretation. In addition, it does not concern or focus on hypothesis as the positivism paradigm does. In addition, interpretivism is “...try to identify, explore and explain how all the factors in a particular social setting.” (Oates 2006, p.292) Furthermore, paradigms explore human thought due dissimilar /similar concepts within the same/different situations in different cases. In addition, interpretive has six characteristics according to Oates (2006). The first one is *multiple subjective realities*, which regards the understandable of “truth” as precarious. Here knowledge and reality are constructions of our thoughts. These thoughts could pertain to single individuals or with groups of people. For instance, by adapting new developments that used different participants one would get different results due to differences in participants’ understanding. There could, however, be a definitive way to construct ‘understanding’ of social constructions for realization and to identify concepts in a more mature manner. The second is the *reflexivity*; it simply means researcher’s own ‘logical’ tendency toward a particular scheme. (Oates 2006) here researchers are reflexive. He said,

“The researcher must therefore be reflexive or self- reflexive....., acknowledge how they influence the research and how their interaction with those they are studying can themselves lead to renegotiation of meaning, understand and practice.” (p.293)

So, the descriptive of any issue stands on the different variables that may be produced by different concepts, however, socially these concepts are not solid as they could vary with time and place. The third aspect is *Dynamic, social constructed meaning*. No matter what is the meaning of reality thought by the participant, e.g. constructed socially more than culturally and ethically bias towards concepts. The fourth is qualitative data analysis, which describes and categorises words to concepts. Oates (2006) claimed, *“There is often strong preference for generating and analysis qualitative data”* (p.293). The fifth is *multiple interpretations*. Researchers here should not seek only one explanation; instead the explanation should be based on evidence. So the result of the outcome could lead to more than one direction/solution or even explanations. The last is *investigation of people in their natural setting*, however, the researcher should seek to understand the different visions that emanate from the same group of people in their environments. All these concepts will be considered in related parts of following chapters.

5.5.4 CHOOSING THE RESEARCH PARADIGM

Based upon the previous discussion, the critical paradigm is based on the assumptions of epistemology, which forms the basis of the reality has been constructed by people. This means that reality is objective and it can be at variance with the interpretive, which focused upon and accepted subjectivity (Oates 2006, pp.268–269). In contrast, the critical paradigm is concerned with the objective aspect that shapes our expectations of the concept or idea (Orlikowski and Baroudi 1991) Socially, the action and meaning of participants in interpretivism is the target of analysis and determines

our understanding toward any situation (Khazanchi and Munkvold 2003). Oates (2006) argues that the interpretive tries:

“... to identify, explore and explain how all the factors in a particularly social setting (web development team, an organization and so on) are related and interdependent. They look at how people perceive their world (individually or in a group) and try to understand phenomena through its meaning and value that people assign to them. “(p.292)

Thus, the nature of the researchers forms the main grounds by which to choose the paradigm. This research is concerned with the disclosure of more understanding when utilizing web 2.0 in higher education in depth. It includes an examination of participants' perception of their attitudes toward skills and knowledge. This examination, therefore, explores the relationship and interrelationship between behaviour and interaction toward new technology instructions. A number of factors were identified as potentially influencing these attitudes. This will assist to gain a more thorough understanding of the newly addressed technique for utilizing web 2.0 in the learning environment. Based on the previous explanation of the theories of paradigms, it is clear that positivism is more concerned with observational theories to further determine or develop understanding. This, therefore, makes this methodology less appropriate to the nature of this research as it focus on the natural sciences while interpretivism is initiated for social aspect.

From a different perspective, the critical approach would possibly be appropriate for this research but it would be unable to examine the social reality as it is concerned with attempting to discover the conflicts of the social structure of the systems themselves (Oates 2006; Oates 2006). Current research into participants' perceptions towards a particular phenomenon is probably linked to social perspectives and analysis, therefore, multi- and diverse concepts would mostly be gathered. On the other hand, all actions and responses doubtless have sense and ought to be considered

(see previous section 5.5.3, Oates's lists). In addition, participants' reality increases. Chua (1986) argues that the nature of the research (scientifically), which is related to interpretivism aims to gain understanding through practice engaged with human thought. This researcher with respect to the context of the literature review believes that the nature of the interpretive methods seem to be, therefore, more acclimate with the aims of this research than other paradigms, i.e. to investigate within learning environments with integrated technology where different concepts cross with different responses.

There are other reasons that make interpretivism a suitable choice for this research. This is because the methodology relies on understanding and exploring new phenomena through human perceptions, i.e. in current research, interpretivism recognises that the researcher has the ability to investigate factors that could influence the implementation of the new read/write web from the learners' points view (for more information see 'mentioned' in chapters 1 and 2) These factors are probably influenced by different issues, such as, culture, technology concepts and psychology (see chapters 2 section 2.2, chapter 3 in sections 3.3.4 and chapter 4 in section 4.7). Nevertheless, Billig and Waterman (2003) assert that "*Interpretivism framework in to determine the nature of the meaning assigned by insiders a social situation.*" (Ibid, p.158) are appropriate because they fit this research. These factors are concerned with learners' perceptions and their visions rather than the nature of the impact, "*knowing is personal and involved the interaction of features of situations and cognitive structures of their participants.*" (Ibid, p.158)

5.6 RESEARCH METHODOLOGIES

Social research uses numerous and diverse techniques in order to explain, investigate, analyse and comprehend social life issues. Denscombe (2010) argues that there are no

fully acceptable strategies or methodologies in social research. He adds that the research should be scientifically acceptable and researchers need to choose an appropriate approach for their requirements to answer their research questions.

The research methodology used in this research was the interpretivism paradigm, established in the previous paragraph. In the following section we will look at the particular methods that have been used. The term “method” is often used to illustrate the procedure that is used for collecting data (Bryman 2008). Methods are techniques and strategies for collecting and converting data to make it understandable (Denscombe 2010; Moore 2000). The three research strategies, namely quantitative, qualitative and mixed methodologies are discussed sequentially followed by a justification of the chosen one.

5.6.1 THE QUANTITATIVE RESEARCH

Oates (2006) asserts *Quantitative data means, data, or evidence based on number.*” (p.245) The quantitative method has been designed as a strategy that collects information, which could be the facts or data (Moore 2000). Martyn Denscombe (1998) adds that quantitative data *“Carries with it an aura of scientific responsibility. Because it uses number and can present finding in the form of graphs and table, it conveys a sense of solid, objective research,”* which means collecting data from participants or things, which are then described in words (Oates 2006). Moreover, data may include experiments, observations, social surveys, content analysis and official statistics (Silverman 2009). Qualitative strategy is effective for communication projects as it appears to investigate a variety of social issues by describing the experiences individuals or groups (Lindlof and Taylor 2010). It is, however, not appropriate when a small number of participants are involved.

Quantitative methods have several advantages as well as disadvantages (Oates 2006; Denscombe 2010). Its advantages are listed below.

1. Quantitative research provides scientific reason. Some researchers believe the generation and analysis of quantitative data is suitable for some research requirements, especially when the scale is large.
2. The analysis is based on a well-established technique and tests of significance that confidence to the findings.
3. The statistical tests can be checked by others because the analysis is based on measured quantities, not subjective impressions and the analysis is an objective rule rather than the value or effect ascribed by the researcher.
4. Tables and charts provide an effective way for the data to communicate the finding.

Despite these advantages, a number of disadvantages exist.

1. The researcher has to be clear about what statistical tests he will use, and what kind of quantitative data he requires.
2. Decisions taken by researchers could affect the result, such as, the value of the scales and the size of the group used for frequency counts.
3. The quality of the data is only as good as the quality of the methods used to collect them and the questions that are asked (Oates 2006).

In addition Bryman (2008) and Gorman et al. (2005) claims that, quantitative methodology can be described by two features.

1. It is a hypothesis deductive approach in terms of identifying the result derived from conceptual theories.
2. The majority of research that uses quantitative methodology tends to be positivist and here reality is objective, which means the guiding principle that claims objectivity assumes the independence of the researcher.

5.6.2 QUALITATIVE RESEARCH

If understanding is less concerned about counting the information and more about describing it, then qualitative methods are more appropriate (Moore 2000). M. Denscombe (2007) said,

“..qualitative data is an umbrella term that covers a variety of styles of social research, drawing on a variety of disciplines such as sociology, social anthropology and social psychology.” (p.333)

Qualitative methods, therefore, are concerned with sense and the way in which people deduce issues related to things. It is also concerned with the outline of actions and behaviour. Moreover, (Oates 2006) states that data from qualitative research includes all non-numeric words, images, sound content, researcher diaries, interviews and historical documents. Denscombe (2007) listed three distinguishing features of qualitative research.

1. The information is grounded in *reality*, which means the data has its roots in the condition of social existence.
2. The data is rich and detailed. In other words, the information is probably in-depth and comprehensive.
3. The results could have an alternative explanation, i.e. different researchers could reach different conclusions but both are equally valid.

Some researchers may have to use both qualitative and quantitative methods i.e. mixed methodology. Denscombe (2007) argues that the distinction between both *“Relate to treatment of data, rather than the research methods as such.”* He also mentioned that *“In the theory, the approaches are not mutually exclusive,”* which means that theoretically, they cannot be separated from each other. For instance, if the strategy used in a piece of research is quantitative (the data is based on gathering numbers) and an explanation of the relationship between these numbers and its variables is necessary, then any description as to the meaning of numbers’ connotations will be qualitative.

5.6.3 CHOOSING THE METHODOLOGY

One main difference between qualitative and quantitative research comes with the methods that are utilized, scale, the technique of gathering data and the paradigm held in different epistemology, ontology and methodology (Blaikie 2000). Commonly,

quantitative methods are concerned with positivism and epistemological research while qualitative methods commonly represents the interpretive approach (Orlikowski and Baroudi 1991). Furthermore, quantitative methods are used when the information in the research has statistical hypotheses and is frequently applied to a large research sample while qualitative methods involve small numbers of participants (Denscombe 2010).

Based on the previous, Creswell (2009) argued that associating the problem with the characteristics of each method would lead to choosing the appropriate one. Qualitative methods are considered to be more appropriate for the discovery and the analysis of relationships and concepts for the current research (Oates 2006; Benbasat et al. 1987). In addition, Strauss and Corbin (1990) said,

“Qualitative methods can be used to uncover and understand what lies behind any phenomenon about which little is known.” (p.19)

This is due to the need to explore phenomena that require in-depth study so that a better and deeper analysis will enhance understanding. It has already been discussed that little is known or understood about the implementation of web 2.0 in higher education (see chapter 3, section 3.3.4).

Attempting to gain a better understanding of the issues that surround web 2.0 implementation through participants' thoughts, which are different due their personal perspectives on the issue would require multi instruments and experiences for collecting the data. Qualitative methods are suitable to describe, explain and analyze the data. Denzin and Lincoln (1994) said,

“Qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter., attempting to make sense of or interpret, phenomena in terms of the meanings people bring to them.... involves the studied use and collection of a variety of empirical materials - case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts.”(p.2)

In addition, another significant reason to choose a qualitative strategy is the scale of this study. It involves a research small group of learners and statistical approaches to analysis are not required. In educational inquiry, qualitative research aims to improve and increase the depth of interpretation of the data that is provided by the learners, i.e. by integrating new methods of instruction into the classroom. Consequently, it has been mentioned that the qualitative method is

“Devoted to developing an understanding of human systems, be they small, such as a technology-using teacher and his or her students and classroom.” (Spector 2008, p.768)

This research aims to conduct empirical inquiry with one group of learners, which will require the use of multi-instruments to cover different perspective, i.e. knowledge, skills and attitudes in depth.

5.7 RESEARCH METHODS

A researcher needs to choose a method that assists in achieving the goals of the research. Oates (2006) divides research strategies into six categories: survey, design and creation, experiment, case study, ethnography and action research. He claims that all of these strategies could be used since interpretive information is required. Each one possesses special features that make them appropriate for particular issues. In following section each of the above categories will be discussed with respect to their relevance for this research. A relevant method for this study will be chosen and justified.

5.7.1 SURVEY

Generalization is probably its main feature, however, Oates (2006) claims that surveys,

“..obtain the same kind of data from large groups of peopleYou then look for patterns in the data that you can generalize to a large population ...”(p.93).

The concept of survey comes under the umbrella of positivism paradigms since the strategy that is used looks at “*patterns and generalizations*” (Oates 2006, p.93). Characteristically, it is a method concerned with searching an extensive field of subjects in order to assess or explain any generalized potential (Cohen et al. 2011). Nevertheless, the relevant information is mostly extracted from a large set of data, because the survey’s ability to give generalised statements would be less well supported if it was based on a small group (Ibid). Cohen et al. (2011) claims that collecting data in surveys is probably a one-shot/onetime event, which means the period for collecting data, which covers a wide range of the population will be over a short/one time. In addition, a survey has the ability to use the same instruments for all participants at different times. For some research a survey will be inappropriate. Denscombe (2010) argues that surveys could assist any kind of research that is unsuitable for presenting an in-depth study, i.e. providing multi-justifications. Moreover, it seems that, surveys as methods do not provide an opportunity for involvement and allow the researcher to improve, change and insert any value or re-evaluate any variables generated during the process of the research of the concept, therefore, the search field is probably not legitimate, which makes it unsuitable for this research. This is because in this research, the researcher aims to complete an in-depth investigation of participants’ perceptions from different perspective, i.e. cultural, technical and attitudinal. Thus, multi-instruments, i.e. interviews,

observations and questionnaires with data analysis are proposed as explained in following sections.

5.7.2 CASE STUDY

Case studies are used when there are unknowns or when very little knowledge exists about the factors of the inquiry (Benbasat et al. 1987). Qualitative methodology is naturally linked to case studies, i.e. it allows the researchers to perform an in-depth exploration of the issues. Oates (2006) claims that the case study,

“...is studied in depth, using a variety of data generation methods the main aim is to obtain rich details into the -life- of that case and its complex relationship and processes.”(p.141)

It is possible to use interpretive case studies, i.e. a current study, as it provides a way to conduct in-depth investigations by adapting multi instruments, which make it, in this respect, similar to action research and unlike the multi-repeated method. These differences would make case study methodologies less likely to achieve the aims of this research as active involvement is not allowed (Yin 2010).

5.7.3 EXPERIMENTAL RESEARCH

Oates (2006) explains that the experimental research strategy works when we *“mean we will try something out and find out what happened.”* In other words, in education, for example, when the instructor aims to examine the effectiveness of new tools or models in the classroom environment. We can describe it here as the hypothesis of the teacher, which will be generated utilising the new strategy with one group of learners and comparing the derived data with those of non-experimental groups of learners. The aim here is to explore the results for both groups and, therefore, measure the effectiveness done to the control and experimental groups. Experimental methods are concerned with examining the relationship between hypotheses and variables by

utilising statistical data, i.e. quantitative methods. The nature of experimental research is based on controlling the variables in the environment (Oates 2006).

In addition, Oates (2006) claims that experimental research is a method that relies on cause and effect. Additionally, he argues,

“It is often associated with the research in physical science, for example, physics, chemistry and metallurgy.” (p.127)

Studies show that research that involves this methodology is able to use it to start to prove or disprove a model, theory or ‘hypothesis’ and uses evidence to draw conclusions based upon empirical work, which has been examined within clear variables (Oates 2006).

Martyn Denscombe (2010) proposes three main ideas that pertain to this method.

1. In terms of control, researchers have to decide what to include and what is not a variable that would affect the research.
2. Here, the researchers can examine the cause and effect regarding the inclusion or non-inclusion of factors within the research procedure.
3. In terms of observation and taking accurate readings, the researchers should be concerned about detail and accuracy.

With this considered, it is obvious that with this type of research, researchers should be concerned with determining the factors and variables that could affect the processing of the experiment. They should also identify, in advance, the extent to which they may integrate factors and variables and way such changes would affect the result, as these variables and factors have been known to control the research. As we have clearly indicated in chapter 3, section 3.2, 3.3 and, 3.3.4, the variables that affect the implementation of web 2.0 via blogs are not well known and need to be investigated, which make this method inappropriate as these variables have not yet been identified and, therefore, not amenable to examination.

This research is an attempt to carry out an investigation, which involves social phenomena, group activity, culture aspects and participants' behaviour. This makes the research complex to control as some of these aspects are not yet proven. In other words, the issue here is insufficient to ascertain because the research attempts determine the cause and effect of factors that are unknown. Nevertheless, engagement with the processes of the research provides extensive knowledge and understanding when the subject is a phenomenon, which is not catered for by experimental case studies and survey methods. In contrast,

“A major strand of action research is that the practitioners should participate in the analysis, design and implementation processes and contribute at least as much as researchers in any decision making.” (Oates, 2006. p159)

Action research method has been considered to be utilized in this research as it will justify in following sections.

5.8 ACTION RESEARCH

“Action research as a method is concerns different things to different people.” (Zuber-Skerritt 1992).

This section will focus and justify the definitions of the term Action Research (AR). As with any other method, Action Research is continually undergoing alteration and development as it confronts different issues thus and thus it contains a variety concepts and improvements (Oates 2006; Cohen et al. 2011). The subsequent sections discuss action research as a method that can be applied to education, its concepts and the purposes that have has been suggested for its use. The discussion also focuses on an interpretation of its nature to justify its selection as the method of choice for this research. Action research emerged as the best method that meets the requirements of the research's aims.

5.8.1 WHAT IS ACTION RESEARCH?

Action Research (AR) is used when instructors want to improve their way of introducing the materials into the classroom and develop a learner's understanding of the knowledge that is being transmitted (Zuber-Skerritt 1992; Cohen et al. 2011; Spector 2008). It is useful to start this section by giving overviews of the different situations for which Action Research can be employed before discussing the issues that surround its definition. When the researchers generate or develop new knowledge, it is centred on an investigation carried out, which uses a prepared practical framework. Koshy (2005) stated that Action Research is a method of how to learn during the actions, which enhance an individual's strategy development processes.

“The scope of action research as a method is impressive... may be used in almost any setting where a problem involving people, tasks and procedures cries out for solution or where some change of feature results in a more desirable outcome.”
(Cohen et al. 2001, p.226)

In addition, improving social issues in small or large groups for organisations or institutions is one of the reflective processes of Action Research that could affect individuals as members of a community. Action Research methods could be adapted to develop and improve (in the real world) the approach, practices and the knowledge transmitted in learning environments (Zuber-Skerritt 1992). Another vision given by Oates (2006) is that action research metamorphoses researchers into actions, i.e. the investigator plans to do something in order to discover the reflection. What will he/her during the process? The researcher should go through three steps: plan-act-reflect; and then set up the same three steps again but this time based on the results of the first cycle to gain a depth of understanding. This process is termed the Action Research Cycling Style. This cycling illustrates the important features of Action Research, which gives the researcher and opportunity to mix up the process. Action Research simply means getting knowledge from an act (Oates 2006).

Historically, Action Research was coined by Lewin (1890-1947)⁵³ for a group of dynamic social theories and practices, It was further developed by Kolb (1984) and Carr and Kemmis (1986) and others (Zuber-Skerritt 1992). Contributions to knowledge should be achieved by involving the instructors with the process. This method includes, as shown in Figure 13 the traditional spiral of the action research method (Zuber-Skerritt 1992).

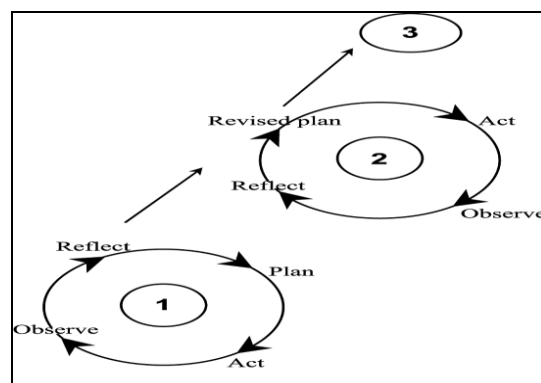


Figure 13: Action research process (Zuber-Skerritt, 1992)

The term ‘plan action’ refers to the implementation of arrangements for this approach, ‘observation’ relates to the evaluation of actions by appropriate processes and techniques; ‘reflection’ means reflecting on the results by evaluation. It encompasses the whole active research process. These steps lead to the identification of a new outcome and hence, a new cycle of needs, i.e. plan-act-observe and reflect. Furthermore, the participants and instructors are involved with these steps dynamically, aiming to understand and develop as individuals. For instance, Action Research is effective for learning approaches when the aim is to adapt or integrate new strategies for the learning environment, particularly teaching and learning styles to discover whether the new strategy works or not (Cohen et al. 2011).

⁵³ “Polish-American psychologist, known as one of the modern pioneers of social, organizational, and applied psychology” (Wiki 2012b).

The fundamental thought behind the action research method comes from the assumption that people can learn and create knowledge on the basis of adapting their experience. They can then observe and reflect on that knowledge, further structuring concepts and then test the implications of the new position and that will probably lead to new accumulated experiences that consequently begin another improved cycle (Zuber-Skerritt 1992). Mumford (2001) claims that Action Research provides structure and a continuing approach to improve features by new processes of investigation. It offers evidence of produce hence validating social issues. These arguments led this researcher to conclude that this method gives researchers verification of participants' knowledge (interpret) and theories by practising the experience of adapting the multi-repeating cycle's process.

5.8.2 ACTION RESEARCH IN EDUCATION

In education, Action Research is valuable because it engages instructors and drives improvement in terms of discovered or developing educational practices (Biggs 1999). Action Research argues that the researcher (teacher') able to

1. Become involved with the process of the study's practices and,
2. Improve and develop education conceptually being driven from the practices (Costello 2003, pp.15–17).

The instructors in Action Research have a chance to learn and understand via different visions through the processes of the practices in actual activities, both the intended and unintended ones (Denscombe 2010). It comes into the field of improving the values of examining environments. Kumar (2005) claims, "*It is carried out to identify areas of concern, develop and test alternatives and experiment with new approaches.*"(p.108)

In AR, making changes and improving understanding at local level, i.e. in classroom environments when adhering to adapted new methods of teaching or understanding issues, could be powerful. AR could be adapted to be

“Used in almost any setting where a problem involving people, tasks and procedures cries out for solution or where some change of feature results in a more desirable outcome.” (Cohen et al. 2011, p.226)

Kumar (2005) argues that AR officially focused on two kinds of research:

1. New approaches or involvements in terms of classifying the opportunity to develop practicing in order to enhance results that would become the basis for change.
2. When there is an issue that needs to be unravelled, explained, even focused upon, the important side of something by collecting evidence, Action Research is an appropriate method to be implemented by researchers, particularly in these situations, furthermore, he said,

“Thought research, evidence is gathered to justify the introduction of a new services or intervention. Research techniques establish the prevalence of the problem or the importance of an issue so that appropriate action can be taken to deal with it.” (p.109)

This research intends to conduct an investigation to gain more understanding of learners’ perceptions regarding the integration of the new phenomena, web 2.0 in higher education, i.e. blog services and more specifically to gain an in-depth understanding by measuring the reflections and attitudes before, during and after the project’s plan. Practice is an appropriate way to identify the factors that will develop the usage of these web services. Learners points of view and the culture factors with different variables are also considered (see chapter 3, sections 3.3.4)

It has been claimed by Oates (2006) that the results of AR relate to both inside-actions and the result of the whole process, which means it offers the benefits of

1. Improvements in practical teaching from studied situations and,

-
2. Getting knowledge from the process of planning, acting and reflecting upon the issues themselves. The research here, however, is intended to not only scrutinise and analyse the situation but also to act by changing it to gain different perspectives in different situations. (This will be discussed in detail in chapter 8).

As we have mentioned above, AR has a massive range of understanding as a method. The experiences of different researchers have been addressed to develop AR concepts. The natural processing of AR methods gives one the ability to learn and improve the process itself by evaluating the results then deciding to take further actions. Oates (2006) claims that the AR method strives to provide a wider view of understanding through the process itself and the capacity to adapt. It seems that AR processing allows researchers to understand new thoughts regarding:

1. The process itself and,
2. The outcomes of the project.

Cohen and colleagues (2011) reviewed various concepts of AR described by other authors, see Appendix O. The concepts of AR began with a focus on finding a solution to problems and then gradually focused on discovering theories via practise. This occurs when new ideas are extracted from the results through practise and training on an issue. Further, Zuber-Skerritt (1992) claimed, AR is assisting practitioners to theorise their experiences through practise. This argument, agrees with the larger view that been suggested by Schön (1991), namely, that AR makes the teacher the ‘researcher’ by

1. Engaging ‘intervention’ in the project within the practice.
2. Developing the theories that derive from the experience and practises via the study (Jean McNiff & Jack Whitehead 2006, p44-68 and Costello 2003, p15-16).

Subsequently “meaning” developed into the idea of developing practical strategies. It also involved the social aspect for improving cultural issues to the stage that the focus

changes by allowing the researchers to observe, evaluate and reflect, which is demanded by this research.

It seems that, the concept of AR has become transformed from solving problem in 1953 to developing new understandings or creating a theory in 2001. It is, however, understandable that AR itself as a pure process has the ability to reach all goals regarding these concepts as long as the nature of being involved with it is maintained. It provides researchers opportunities to intervene and engage, i.e. AR makes researchers conversant with most of the actions or data they aim to reach as well becoming aware of any other potential non-target information. In addition, AR can be utilized to generate new knowledge, which is centered on the investigation and carried out within a prepared practical framework.

Even though, different concepts of action research exist Koshy (2005) stated that AR's single method of learning during the actions further develops the individual or strategies in any situation. That statement is completely different to that of Elliot (1991) who focused upon AR to improve practices rather than produce knowledge. He said, "*The fundamental of action research is to improve practice rather than produce knowledge or theory.*" (p.49).

This is dissimilar to Greenwood and Levin (1998) who believe that AR generates knowledge for changing social life and with Costello (2003) who presented AR as a process that could be used when a researcher aims to change, improve and develop a better understanding of a particular issue. He asserted that it provides the research or teacher to

1. Participate in engagements to
2. "*Develop their own educational theories driven from that practice.*" (p.15) but it is most important for current research.

AR methods are appropriate to

“Create a new knowledge, researchers following a socio-technical approach will want to test out the validity of new theory through applying it in practice.”(E. Mumford 2001, p.17)

To sum up, the previous paragraphs show that AR methodology is designed to bridge the gap between theory and practice for many different purposes. AR offers an opportunity for researchers to become involved and intervene in processing research steps for applications. This improves the quality of the research by continuing the cycle to develop understanding, which addresses a new framework. In addition, AR is also concerned with contributing to the growth of practice and theory. This method allows research in different subject areas to enter the same subject area and be examined and exchanged with other ones in the field. Furthermore, utilizing AR in educational fields would relate similar issues, the processing of the systems more realistic and make the evaluation of any situation easier to investigate. This research aims to explore the impact of the implementation of internet tools in higher education. The researcher plans to run the study with learners in higher education.

A significant stage of this research involved choosing appropriate data collection methods that will allow the researcher to obtain the correct data with respect to the researcher's engagement with the phenomena of implementation. The participants for this inquiry are a group of learners in higher education in Saudi Arabia whose perceptions need to be analysed and understood in depth. Consequently, the research methods applied is AR.

5.9 RESEARCH INSTRUMENTS

According to Zuber-Skerritt (1982) and Oates (2006), the nature of AR typically involves using more than one instrument for data collection. In education, instructors

have an option and the ability to utilise more than one instrument when researching learning environments. Some authors believe that utilising one instrument reduces the potential of the research to acquire relevant and accurate results (Hammersley et al. 1994; Shackel 1994). Nevertheless, AR mainly used ethnographic instruments, e.g. interviews because they involve common social intercourse (between the interviewer and all the interviewees) and focus on insider perspectives of a situation (O’Hanlon 2003). A number of instruments are available to interpretive paradigms. These instruments are questionnaires, structured and unstructured interviews, observations, gathering and analysing documents and recording data (see the previous discussion for the recent publications about instruments that are used for data collection in chapter 3, sections 3.3.3 and 3.3.4). Thus, selecting the instruments for any research is a task normally based on the nature of the requirements of the data and their proven ability to deal successfully with data in previous pieces of research.

The data for this research was collected utilising AR methods to investigate learners’ involvement and attitudes towards utilising new websites services. In order to answer the research questions, different instruments for collecting the data were applied.

Martyn Denscombe (2010) argues that knowledge regarding the issues under investigation improves when data is gathered using more than one instrument. Consequently, researchers use more than one instrument to ensure the reliability of their data. That been proofed by this study, for example, during the pilot study in the pilot study of Alhojailan (2012a) one learner mentioned, in the middle of the project, that he was less active now than at the outset of the research. Two different reasons for this change were identified using a post-interview and a questionnaire. During the questionnaire this learner claimed that time was tight and he was unable to be as active as he had been previously with regard to posting and editing the article. He also

claimed, in the post-interview stage, that the procedure and arrangement of the blog did not encourage the same level of activity as that required during the study phase. Consequently, it was apparent in this case that using one instrument would have presented just one cause, which would not have fully reflected the actual problem; whereas, integrating interviews gave the researcher the opportunity to consider the problem in more depth and so identify the genuine motivations for the student's behaviour. To benefit from the use of multiple instruments for data collection, this research included three main instruments, i.e. interviews, observations that involved data analysis for blog content and a questionnaire. Furthermore, Clark and Mayer (2011) agree with integrating these three instruments when researchers investigate whether individuals learn better with technology [*How to learn*], because there is the possibility that a participant will express more than one opinion that concerns the same issue. The following section will discuss the above three instruments in more detail (more information could be seen in chapter 3 second point in section 3.3.4)

5.9.1 INTERVIEWS

Interviews, for the purposes of research, involved presenting different types of conversations that aim to reach particular data from participants (Oates 2006). The interview technique encourages researchers and participants to discuss their thoughts and reveal their understanding of different issues and to express their points of view through argument (Cohen et al. 2011). It was used in combination with observations and the questionnaire for several reasons (more information could be see in Table 3 in chapter 5, section 5.9.4). It allowed data to be collected at different stages during the study. In addition, this approach makes it possible to validate and compare and measure the interview data in the light of other information that has already been collected by the other instruments (Ibid).

Interviews allow the researcher to collect data when the required information may be difficult to access or directly observe, especially when the information is based on participants' feelings or when the aim is to collect data concerning the opinions or perceptions of participants that needs to be discussed (Arksey and Knight 1999). In addition, there are three types of interviews: unstructured, semi-structured and structured in this research, the interviews have been developed during the courses.

Furthermore, interview questions were developed regarding the need to acquire different information in different places during the conversation, e.g. when learners were asked a structured question to determine their backgrounds and their beliefs regarding the use of technology in their activities, they were asked, what is the advantage of using a web application in education? If the respondent lists reasons this is an ideal response, however if the answer is "I do not think there is an advantage," then the conversation would need to be adapted with semi-structured questions, such as, "Why do you say that? Or, "why you do believe that?"

Arksey and Knight (1999) claim that when the research aims for an in depth exploration, an unstructured interview is more appropriate than a structured one. In this research, because there is a recycling of the AR method, new actions and reflections are constantly being provided by the learners. These acts need to be justified with new questions every time when the participant is exhibiting a new behaviour, for example, "Can you please give more explanation?" Or, "what leads you to this opinion?" so the researcher in this situation tends to need flexible questions at different times.

The interview is used to gather data directly from learners. It allows data to be compared with alternative information, which in some cases might not be available by using other resources or if the data were independent of other instruments. According

to Eden and Huxham (1995), some learners may indicate positive opinions or attitudes rather than telling the truth. The reason behind that is a belief that the truth might adversely affect the instructor's evaluation; thus, the most reliable information is likely to be yielded by integrating interviews with other data collection techniques.

Answers given in the interviews can hold various meanings; the semi-structured interview can successfully assist the researcher to elicit interviewees' answers to questions and abstract relevant meanings e.g. Which one? How it could work? Why do you chose that part? Thus, most questions are expected to originate through the interviews during the action research cycles.

5.9.2 OBSERVATION

Observation is one of the main strategies for collecting data in AR (O'Hanlon 2003). It relies on researchers being in a position to effectively observe, record and collect data from participants; it is a method by which to "*gather live data from live situations*" (Cohen et al. 2007, p.305). Moreover, observation can provide and collect information that may otherwise be overlooked. Furthermore, it is possible that participants may not give complete sets of information during interviews regarding certain situations, so observation provides the possibility for the researcher to 'fill any gaps' in the information that has been acquired. Additionally, observation provides the researcher with the ability to acquire a wider view and understanding of the multiple actions that result from different instruments. For example, in this study, the researcher observed the learners' actions during web activities and compared these with their statements in questionnaire and interview in to gain full understanding for their actual attitudes, because judging their actions via one method does not provide all the data required from the participant. In this way the researcher is allowed access to their knowledge to understand respondents' genuine attitudes (Cohen et al. 2007).

Cohen et al. (2011) suggested three types of observations:

1. Structured observation where the researcher has a full list of data to collect. It *“is very systematic and enables the researcher to generate numerical data from the observations”* (Ibid, p306).
2. Semi-structured observation where researcher has a small number of concepts and is consequently collecting data to clarify these issues.
3. Unstructured observation where the researcher intends to observe, then to decide what information is relevant and important for the research.

In this research, a pilot study and semi-unstructured observation will be used to observe any behaviour or acts that might affect learners’ perceptions.

Overall, observation of learners’ behaviours and their related activities outside the classroom assisted in providing a deeper understanding of the situation (Patton 2002). Furthermore; this helped the researcher to more accurately illustrate significant participant perspectives. Patton (2002) noticed that observations in combination with interviews might provide researchers with a more in-depth understanding of the field of inquiry. Obtaining information from different sources improves the likelihood of receiving acceptably validated data.

5.9.3 THE QUESTIONNAIRE

In order to discover the relevance of integrated blogs for learners, the study sought to cover the perceptions of all the participants (Oates 2006). Any research questionnaire should be carefully designed to meet the research’s requirements by covering all the questions that need to be answered. Primarily, two different types of information can be gathered by a questionnaire: accurate data, e.g. name, age, job title and computer skills (e.g. in this research, Appendix O, section 1, 2, and 3) and opinions, e.g. Can blog activities allow me to participate from convenient times and places? Why?

Open questions with an empty space for participants to fill in the answers and closed questions with a limited choice of answers are the two options available to the

researcher (Oates 2006). This researcher designed the questionnaire for this research to include some variables e.g. demographic data, computer access and computer experience of the learners. The questionnaire was design to consider whether a particular variable relates to or affects the data that has previously been given could be influenced by computer experience in terms of the usage (Jiamton 2006). A questionnaire with a combination of open-ended and closed questions is the most appropriate data collection instrument that could achieve the target results for this research. Since this study involved a pre- and post-test (for more information see chapter 3, sections 3.3.3 and the third point in section 3.3.4), the questionnaire can facilitate a comparison of the differences between learner's perceptions before and after the study, which will lead to identifying the impact of the study and classifying the relevant concepts. Furthermore, it has been identified that a questionnaire is one of the most commonly used collection data instruments for empirical studies that utilize blog tools (Sim and Hew 2010, p.152). The following section will explain how these instruments will be applied in this research.

5.9.4 DATA COLLECTION APPLIED IN THIS RESEARCH WITH ITS PURPOSES

Table 4 (below) summarises the instruments that will be used in this research together with their purposes. Furthermore, the strategies that were used to deliver these instruments are described in detail in chapter 5 in section 6.3.1 and chapter 6 sections 7.3.5, 7.3.5.1 and 7.3.5.2.

Collecting data	Features, aim, purposes	Utility for this research
Observation	The researcher can observe direct data rather than second-hand accounts and make the researcher look into fresh data steadily with gathered non-verbal data (Cohen et al. 2011, pp.465–475). Concerned with “ <i>What people actually do</i> ”(Avison et al. 1999; Oates 2006). It “ <i>Allows analysis to compare an expert’s description of the task with actual events</i> ” (Spector 2008, p.580).	Unstructured, will use direct and indirect. Demands, in-depth understanding to support interview information pre/post-questionnaire analysis. Moreover, will look at: <ol style="list-style-type: none"> 1. The interaction among learners’ posts and their comments, e.g. what they concede, their interactions. 2. Their interaction with each other and with the instructor. 3. Actions that would occur whilst using the activities. 4. Learners’ usage and behaviours.
Questionnaire	Powerful for collecting survey information, covers large amounts of participants (Cohen et al. 2011). Useful to use to focus on precise issues, e.g. to measure one variable. Also, evaluates attitudes and feelings (Spector 2008, p.771), collects data about group processes (O’Neill 2002).	(1) Perceptions and attitudes of the learners towards integrating blog tools within their learning environment and (2) determine the potential of utilising blogs. Moreover, the questionnaire was designed to measure the impact of blog services on learners through <i>social convenience and capability, information and content, interactive capacity, motivation and discipline, transferability, assist and enhancing learning and interest</i> (see chapter 3section 3.3.4)
Interview	Discuss participant’s interpretation regarding their interactions and confederation of the study (Cohen et al. 2011). Some data difficult to directly to observe, especially when the information is based on participants’ feelings (Arksey and Knight 1999), further, interview is suitable in this case.	Series of interviews were planned: at the beginning, during the study plan with selective. Moreover, the purpose of the interviews is to anticipate the outcome (data) and to understand in more depth participants’ perspectives regarding current issues, i.e. gathering learners’ opinions of the experience, along with the advantages and disadvantages, possible improvements, interaction and the actual experience. Also, some participants could claim positive opinions or attitudes rather than telling the truth.
Blog content analysis	Analyse the content of learners’ blogs, posts and comments, note their actions and responses	It aims to gain a deeper analysis by identify improvements in learners’ critical thinking and interactions via their posts and comments through the activities (Perschbach 2006).
Documents	To obtain a better vision regarding the relevance of the research, include all the keys to eLearning (Lin et al. 2006; Divitini et al. 2005). (for more information see Sim and Hew (2010) study).	Will consider, any, emails, common discussions, communications, analyse all actions, related behaviour, blog interactivity, comments and actions during the empirical study with learners.
Literature	Gaining a better understanding of the related issues of the implementation of web technology in education environments.	Electronic search of DMU’s database and library, books, Google challer.com, journals and conferences. KSU database. Publications and related projects.

Table 3: Instruments utilized in this research with their purposes and their relationships

5.10 VALIDITY IN ACTION RESEARCH

As mentioned in section 5.8, Action Research will be practiced creatively in an inductive way during this study. Whilst creating or developing theory during a study, the research should focus on existing practices that have already been developed or on successive experiences (Elliot 1991). Researchers are involved in collecting data and frequently intervene to varying extents during the process depending on the approach they have adopted. This research uses an in-depth qualitative study to investigate the impact on learners' perceptions and to identify the concepts that affect their attitudes, along with the flexibility on the part of the researcher that is required by Action Research. Thus, collecting the data could involve bias (Fraenkel and Wallen 2003).

The reality of the social situation in Action Research holds a multiplicity of perspectives. Thus, generalizations tend to be drowned by one sampling act or situation. Therefore, the outcome of Action Research is mostly reprehensive of the situation in which they were generated and make claims to generality.

The basic assumption of the nature of Action Research relies on researcher intervention, which makes AR require internal validation. This means that Action Research does not carry out what it claims to do and that the results are reliable (McNiff 1993). A research must apply rigours strategies. It is clear that the process of Action Research relies on the researcher's ability to devise a plan to collect information and data. Furthermore, the data should applied systematically, accurately and continuously (Oates 2006). It is necessary that the processes of Action Research be presented in a clear and fully descriptive account for the reader in order to convince one of the research's apparent credibility. One negative side, internal validity could diminish the applicability of the research's inferences to other

situations but this is countered on the positive side by a research's detailed description and the collection of accurate data (Ben-Yehoshua, 1990 in Eilon 2001).

Other way to avoid bias and to validate the data is by using triangulation (McNiff 1991; Price 2007). It has been argued that triangulation is most likely to be the main technique for assisting researchers in ensuring that analysis is rigorous and the data is carefully scrutinised to validate the literature (Elliot and Adelman 1974; McNiff and Whitehead 2002; Elliot 1991). Consequently, researchers should present and document a large quantity of references to help to acquire a better understanding of the research and to make sure that the meanings and concepts are accurately understood. Triangulation is concerned with gathering a variety of data from multiple sources, aimed at constructing and obtaining a wider portrayal of the issues. McNiff and Whitehead (2002) argues that validity involves,

“Cross-checking the existence of certain phenomena and the veracity of individual accounts by gathering data from a number of informants and a number of sources and subsequently comparing and contrasting one account with another in order to produce as full and balanced a study as possible.” (p32)

This research has integrated more than one instrument for two main reasons:

1. To gain a wide view of the situation and avoid reliance on restricted perceptions, because the data acquisition process involved social interaction amongst learners, which means their behaviours possibly may be subject to change for many reasons (Cohen et al. 2011).
2. To use different data collection methods to provide a vast quantity of data of conflicting perceptions that will require in-depth analysis. Contradictions in some of data may occur and such conflicts may be resolved by observing other behaviour during the course or via using different instruments in different situations.

By carrying out the research in a number of different ways over a long period of time credibility is heightened, *“To show how certain findings can obtain the same results when they are transferred to other contexts with similar properties.”* (Halaweh et al. 2008), as it will be explained in details in chapter 9, section 9.3.

The aim of using triangulation is to ensure that all the required data is gathered for the purpose of answering the research questions. This allows the researcher to build on the data to make it as reliable and valid as possible (Cohen et al. 2011). Triangulation causes data to be incorporated from more than one source, which will add value when the researcher comes to explain any discrepancies in the data. Hence,

“Triangulation is important in action research. Using multiple sources of data and avoiding reliance on a single source enhances corroboration of the findings.” (Ary 2009)

It seems that triangulation could enable the researcher to gain a better understanding of conflict behaviour in social issues, e.g. the perceptions of the learners regarding integrating new technology within their learning environment, as this research attempts to determine this relationship. Triangulation made the researcher be sure of the points that comes from different resources, i.e. each piece of information collected will support or refute other evidence (Cohen et al. 2011; Ary 2009).

5.11 CONCLUSION

In this chapter it has been discussed that studying and discovering the phenomena concerned with technology in education are dependent on the tenets of the interpretation of paradigms, especially when the human perspective is the main core of investigation. In addition, this chapter started to describe the three main paradigms. It then moved to define the research methodology and the data collection strategies chosen for this research.

The most appropriate paradigm chosen for this research was interpretivism because it believes in and receives subjectivity, further; it provides a wide vision of understanding and practice through learner’s thoughts and perceptions. Furthermore, action research methods have been chosen, as it enables the researcher to develop understanding by intervention and grasp learners’ experiences and practices through

the empirical work of this of this inquiry. Furthermore, Action Research coupled with interpretivism offers multi instruments for data collection, which have been utilized by this research.

The next chapter will describe the research's design, the pilot study, the validation of the research instruments, results and the lessons learnt when preparing for the empirical study.

6 RESEARCH DESIGN

6.1 INTRODUCTION

The previous chapter discussed the research paradigm, methodology and instruments for data collection that will be used for this research. This study aims to explore the impact of blog web services on learners' perceptions, as well as carrying out an investigation into their attitudes in order to identify the issues that may affect the use of this technology in developing prototype models that include the factors that would influence the implementation of web 2.0 via blog tools. The following section describes how the pilot study tests the research design and also discusses the methodology used in the pilot study, i.e. the procedures that were followed, the participants that were selected, the interviews, the questionnaire and the observation steps. In addition, it will describe the difficulties and problems that were encountered and discuss the outcomes and lessons learned for future consideration for empirical studies.

6.2 THE PILOT STUDY

Having identified research questions and constructed the methodology to answer them (in chapters 1 and 5), experts were consulted, as part of this research study, some of whom work in the same field (see Appendix L). Before conducting the study, it was imperative to ascertain whether or not the research design needed refining. Furthermore, it was equally important for the researcher of this study to gain some experience before embarking on the main study since this might help to avoid problems (Chan 2007; Ercikan and Roth 2009).

Cohen et al. (2007) suggested that a pilot study is an appropriate way to improve and gain knowledge of the research process. They said, "*It may be better for the teacher to develop a pilot study and uncover some of the problems in advance of the research*

proper.” (Cohen et al. 2007, p.56). In addition, it assists to have a wide view of the empirical work by the experience that is gained from practice during AR. (Yin 2010) said,

“Pilot studies help to test and refine one or more aspects of a final study, for example, its design, fieldwork procedures, data collection instruments or analysis plans. In this sense, the pilot study provides another opportunity to practice. The information from a pilot study can range from logistical topics (e.g. learning about the field time needed to cover certain procedures) to more substantive ones (e.g. refining a study’s research questions.)” (p.37)

Consequently, the pilot study was set up with the following objectives in mind. Firstly, test the proposed research design and gather data from the participants that might identify any potential problems (it addressed in Figure 14). Secondly, the pilot study would enable participants to familiarise themselves with the research procedures. Thirdly, the pilot would prepare the researcher for the main research, allowing him to become more familiar with the methods and instruments, data collection and analysis. Fourthly, it would present an opportunity to refine the questionnaire and interview questions so that the participants could fully understand them so that they could give appropriate answers. The main objective of a pilot study is to enable the researcher to obtain data for analysis that was meaningful, comprehensible and unambiguous (Hocking 2003; Gay et al. 2000).

6.3 THE PILOT STUDY AND THE DETAILED PLAN

The pilot study was carried out at The School of Technology, De Montfort University, Leicester, United Kingdom, during the second semester of 2009-2010. All the participants were from Saudi Arabia (since the main study examined university students in Saudi Arabia) taking part in a module labelled COMP5262 entitled “Research, Ethics and Professionalism in Computing.”

Before starting the pilot study, it was essential to make sure that the sample population was representative of the main study sample (Phillips and Soltis 2004). Therefore, as mentioned above the pilot sample consisted of a small number of Saudi Arabian students who were involved studying the above mentioned module. The pilot study sample was, therefore, deemed to be representative of the main study sample. The similarities were twofold. First both groups shared the same background in terms of being post-graduates and they had experienced similar systems of higher education in Saudi Arabia. As mentioned in section 2.3.1 all government universities in Saudi Arabia share the same system, learning styles and modules being administered by the MoHE, for example, learners from Um Alqura University who graduated in Art Education generally share the same background and knowledge as learners of the same subject who have graduated from King Saud University because the modules are structured in mostly in a similar way.

Secondly, the participants of both studies were similar in the sense that they had not previously experienced the read/write web, i.e. web 2.0 applications in education, especially with blogs. The participants in pilot study shared same background as those involved in the main study (see section 7.3.4). They all shared similar experiences regarding the integrated technology they used in their education.

6.3.1 THE FRAME WORK OF PILOT STUDY

Qualitative methods were used to collect data from the learners to pre-test the strategies and instruments that were proposed for gathering the data. All the participants were students who attended class and completed tasks assisted by blog services. The intention during the pilot study was to collect the data via questionnaires and interviews in order to measure the changes that took place in learners before and after experiencing the blog tools in class.. It was planned that a series of three

interviews should be conducted during the study. The first interview was to be held at the beginning of the study, the second in the middle, and the third when it was complete. In addition, pre and post-test questionnaires were to be distributed at the beginning and at the end.

The plan was to collect the data at three different times during the study. Initially, the pre-questionnaires will be collected and the first set interviews conducted to assess learners' attitudes, reflections and opinions towards blog services before integration with the blog. The second set of interviews will then be conducted in the middle of the study; this will provide data that measures the extent of the influence of blog service usage. Finally, the post-study questionnaires will be collected at the end and the third set of interviews, which are carried out in order to compare the pre- and post-data. By comparing the differences before and after the study, it will be possible to assess the impact of the tools on the learners' experiences.

6.3.2 PILOT STUDY'S PROCEDURE

Action research was used for the pilot study. According to Whitehead (1985), the strength of this method is that it is very practical and it expected to accrue participant organisation as a result. One of the limitations of this approach lies in the possibility of different interpretations of the data. Another is lack of control over individual changes. The difficulties, therefore, lie in distinguishing between action and reflection. In this inquiry, Action Research allowed the instructor to become involved 'intervention' with the learning process, which meant that any change could be observed and linked to the details provided by the learners.

Due to the absence of module assessment when the second set of interviews was conducted, participants displayed less interaction and co-operation. Thus, the second set of interviews was carried out over the whole duration of the course due to

constraints on participants' time. The first and third sets of questionnaires were distributed as planned. Unstructured observation was used in this research. It was also the researcher's intention to observe participants' actions and interactions through blog posts and their comments during the course tasks outside the study. The aim was to observe some of the concepts already included in the questionnaire and interviews.

The aim of the pilot study's procedure was to collect compatible data by using different instruments to gather data from both similar and different directions with each instrument supporting the other in order to build confidence and validate the data (Messick 1995). It was planned to draw data from diverse sources in order to measure the differences brought about by learners' experiences at three different times during the course. The objective was to establish whether this procedure, which relies on three episodes of data collection, would reflect the three action research cycles, and so produce relevant answers for the study. The final aim of the procedure was to refine the procedure itself, removing any barriers or obstacles that might confront the researcher. Figure 14 includes the plan for data collection.

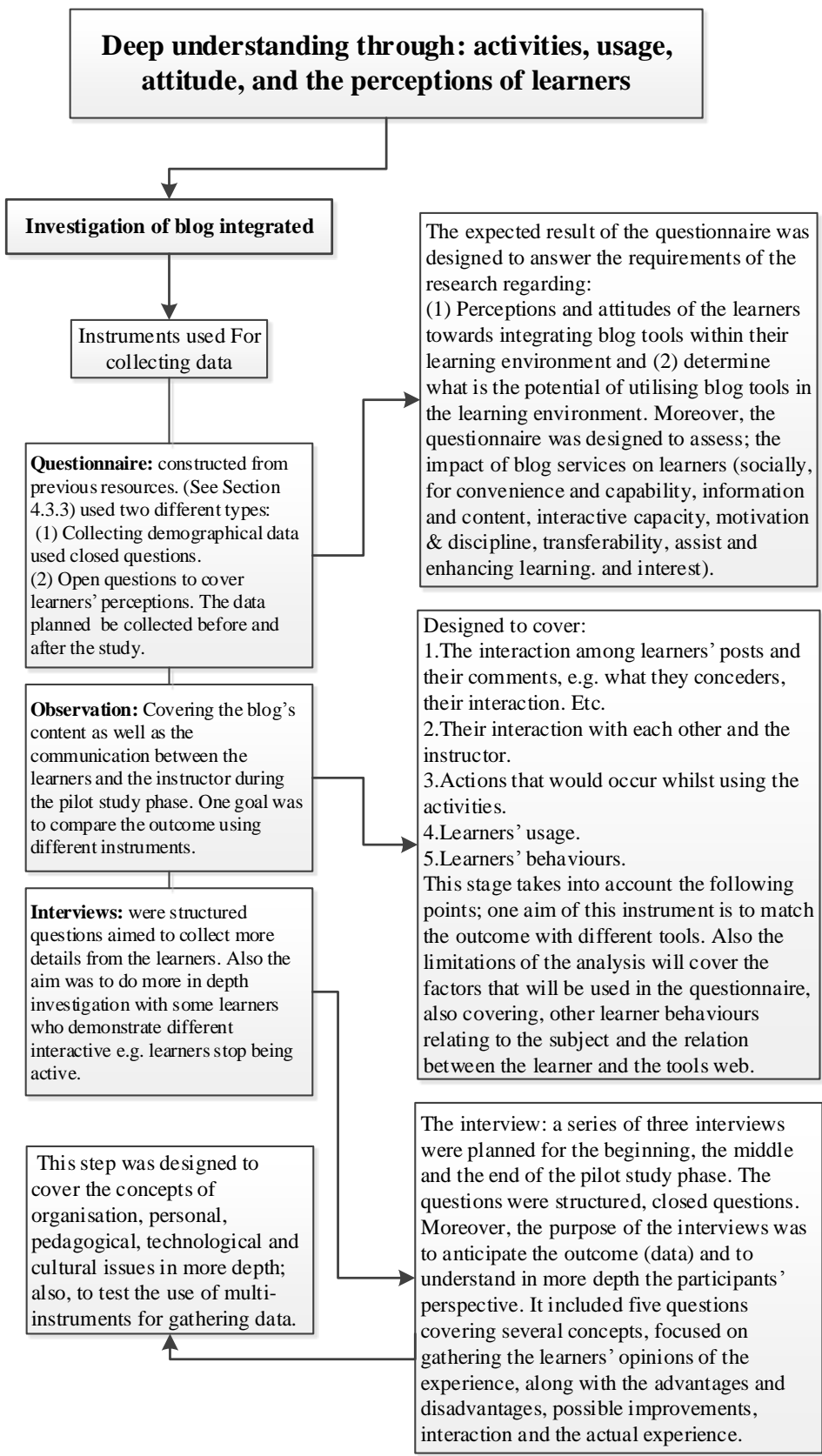


Figure 14: Research design for pilot study plan

6.3.3 ETHICAL ISSUES

Ethical approval from of the Faculty Human Research Ethics Committee of De Montfort University has approved this research [See Appendix A]. The researcher informed all the participants of the inquiry's aims and that participation was voluntary. The main components of the ethical issue are informed consent and right to privacy (Leedy and Ormrod 2009). All the information will be gathered protected. The researcher submitted the important forms in the line with De Montfort University's regulations. These forms included the Consent Form for Research Study [see Appendix B], Simple Research Consent Letter [see Appendix C], Application Form for Research Activity Requiring Human Research Ethics Consideration or Approval [see Appendix D], Participation Procedures Letter for Pilot and Empirical Studies [see Appendix E], Interview Guide [see Appendix F] and Sample Research Consent Letter for use in Conjunction with Human Research Ethics Clearance for Ethically Simple Interviews [see Appendix G]. Basically, all these forms and applications covered all the inquiry's ethical issues, e.g. the purposes of the research, the participant's right to not volunteer and the right to withdraw, data protection and anonymity etc. In addition, the participants were informed of all the procedures that were involved in collecting the data including recording the interview and the way the data will be used.

6.3.4 DATA COLLECTION PROCEDURES

To summarise, this pilot study included the following data collection methods: closed and open questionnaires, closed questions in the interviews and unstructured observation (see Table 4). The participants were asked to answer questionnaires each, one before and one after the study. The researcher also planned to conduct a series of three interviews during the project. The first interview was to be carried out at the

beginning of the project, the second in the middle and the third after the project was complete. Observations were to be made by examining student activity during data collection time, as outlined above.

6.4 LESSON LEARNT

The pilot study was designed to test the intended research methodology, its instruments and its cost-effectiveness. The purpose of a pilot study is not to obtain evidence or to gather the data itself but to test the techniques to be used and to improve the research by adapting the methods, instruments, times and data collection procedures. In addition, the researcher will gain experiences in advance, which in turn will help to improve the main study and avoid errors.

6.4.1 BENEFITS FROM THE PILOT STUDY

The lessons learned from the pilot study can be divided into two main parts, as described in next sections.

6.4.1.1 Instrument Improvements

Improvements to instruments are described in three parts. The first part relates to design problems of the instruments, which caused the researcher to effect some modifications as described in the next paragraphs.

First part: The benefit related to the data collection procedures. Beginning with the questionnaire, before the module started the questionnaire was distributed to 25 students, of which only 7 responded. This low response rate was unforeseen by the researcher, since the plan was to gather data before, during and after the study. This delayed response to the questionnaire resulted in the decision to focus on the interviews of the main study to obtain the students' perceptions and opinions before the study commenced, thus closing the information gap caused by the delayed response to the questionnaires. This in turn meant that the interview questions were

changed from structured to be semi-structured and then to unstructured, as the aim for gathering the data changed in the main study.

Second part: Although, at the beginning of the pilot study run, an unstructured observation model was followed as there was little to observe for two reasons:

1. **First reason**, the activities required from learners were structured and arranged in advance meaning there were no further actions to explore because each learner was following the rules of the activities.
2. **Second reason**, there were general concepts that have been drawn from previous studies but these were insufficient to provide the basis for an observation to align with other results. Thus, the observation did not offer much material to relate to other data that had been collected. Noting learners' opinions as shown through their interactions with each other and watching their behaviour outside the study offered some level of understanding but some actions remained difficult to observe (Patton 2002).

With regard to that it was noticed when learners added topics this action was followed by numerous short positive and encouraging comments transmitted to the writer. For example, one task (in the module's rules) required learners to post the topics of their choice regarding the research assignment, which was followed by the posting of short encouraging comments, such as, "*good idea*", "*I like your topic,*" etc. Initially the researcher thought this was a reflection of learners' enthusiasm regarding the online interaction. Subsequently, it was discovered that the short comments appeared because each learner was expected to add one comment each week. This was realised when listening to learners' conversations with one another outside the study environment. This demonstrates that applying triangulation for collecting data is very benefit, because the researcher is able to obtain the best explanation for any action that has diverse and complex meanings.

Third part: Due to learner time constraints, and co-operation it was not possible to conduct a series of three interviews. It was found that the interviews in the middle would not have contributed meaningful information as the module lasted just 15 weeks, including two weeks introduction.

Furthermore, the data gathered from the middle interviews was not new information. The information had not ‘moved on’ from the pre-questionnaire and it mostly consisted of general answers, for example, two students gave their opinions as, “*I cannot decide now whether it is benefit or not.*” and another said “*It is fine, we are following the structured, will see!*”. Consequently, the collection of data at the middle stage of the study would be improved by observing learners’ behaviours, their interactions, and the developments made to research instruments as a result of the pilot study see following in Table 4.

Final part: it has been noticed that observation at the middle stage was more beneficial for two reasons:

1. Observing learners’ behaviour outside the class allowed the researcher to gain information about what learners considered, for example, the learners did not show their dissatisfaction regarding interactions with the instructor through blog activities while these sentiments were not shown by the questionnaires or the interviews.
2. During the observation, the researcher gained mixed information about different visions regarding one issue, e.g. the information gathered from learners’ oral opinions, modules rules, interactions through the blog, assisted the researcher to understanding of why the majority of learners post short comment (Patton 2002).

	Plan for pilot study	Results of pilot study	Action taken for main study
Questionnaire	-To distribute the pre - questionnaire -Closed and open questions.	-I collected the questionnaire once. So I focused on the interviews and observations.	-Be aware and give more effort to collect the questionnaires in a timely manner. If not possible, the researcher should consider and focus on doing interviews with a larger number of learners. -Changed the design of the questionnaire to make it open-ended.
Interviews	-To conduct three interviews; at the beginning, in the middle and at the end. -Structured questions.	-Separate interviews were conducted at different intervals during the course. -Because of disruption to the questionnaire stages, interviews focused on gathering information at the beginning, -The style of the questions was changing from structured to unstructured.	-Will focus on two interviews; at the beginning and at the end, also will do [if time available] a series of interviews with a few learners during the study. -Changed the question style to start “gradually” from structured to semi-structured to unstructured, depending on the situation of the behaviour of each learner and the time.
Observation	-Unstructured, aiming to notice things that the learners are not ready to discuss or any sudden behaviours and actions.	-Unstructured, based on the nature of the situation e.g. long for the course, how long will the observation be etc.	-Unstructured, will use direct and indirect. Demands deep understanding to support interview information pre/post-questionnaire analysis.

Table 4: The developments made in the research instruments as a result of the pilot study

6.4.1.2 Gaining experience

Conducting a pilot study meant that the research began the main study with some prior experience; this increased confidence in:

- The approach itself and,
- In dealing with the instruments (see section 6.4.1.1.). For example, during the pilot study the researcher was unsure of the optimum amount of information to collect, observe and consider. After conducting the pilot study, these uncertainties were reduced, as concepts became apparent and the learners’ behaviour provided a wider view of the environment itself. The pilot study increased the likelihood of acquiring reliable evidence and answering the main study’s objectives, as confidence increased in the methods chosen to collect the data.

As a result of running the pilot study researcher was able to gain the experience to make slight technical modifications, which enhanced his confidence that the research design was appropriate for this type of investigation, able to gather the kind of information that was required and was appropriate to answer the questions that this

research posed. Furthermore, Action Research gave the researcher the opportunity to obtain in-depth data by being a participant in the research. The data will be confirmed by repeating, i.e. some obtainable actions or behaviours by learners. Such data could be difficult to include under a specific explanation or it may be more accurate to say that the evidence is insufficient to be confirmed.

Another important side to Action Research found in the pilot study was to make the researcher intervene. This provides sufficient flexibility to improve and adapt the study so that its goals are met or to have multi-processing to aid understanding. This was not done because module's syllabus was not structured. During the pilot, the researcher noticed that some learners expressed dissatisfaction with some blog interactions that came from some colleagues and instructors. This issue has been discussed in detail via an exchange of ideas that aims to seek a better environment for all, thus the researcher agreed to change some of the rules that are not required.

This improvement has changed the nature of the Action Research. This change will lead to further outcomes and enable access to many possibilities within one study (Cohen et al. 2011). This change, however, may not be as great as many learners had come to expect as these activities required engagements with blogs and the ability of action research methods makes for requisite flexibility that increases interactivity during the blog.

6.4.1.3 Prepare the instrument, validation and translation

A very important point should be mentioned. To validate the instruments, the researcher used experts to validate study's data collection instruments during the pilot. The comments and feedback have been received from the experts and that of the participants of the pilot study with respect to the content validity of the questionnaire and interviews are recorded, the final copy of which can be seen in Appendix P and

Appendix Q. A second important point is to validly translate the instruments into Arabic. The empirical study will take place in Saudi Arabia and the language in the university is often Arabic. A back translation process is essential to validate the content in another language (Harkness, 2003). The researcher, therefore, followed the process:

1. All the instruments were translated from English to Arabic as a first draft.
2. The translated versions were checked by experts in DMU, (see numbers 2, 5, 8 and 10 in Appendix L) where some modifications were made.
3. The instruments in the two languages were given separately to two experts in English and Arabic (see numbers 7 and 9 in Appendix L).
4. The Arabic version was checked and revised and re-checked by external validation. In this way the validity of the Arabic version was ensured (see number to be confident that the questionnaire and the interview represented the English validated version).

6.5 CONCLUSION

This chapter presented the design for this research, i.e. a pilot study plan; data collection processes, purposes and it also addressed the framework for the empirical study. In addition, it reviewed the issues that had been raised by the pilot for the benefit of the empirical study.

The following chapter comprises of two sections. The first section outlines the details of the empirical study, including action research cycles, sampling, the module's syllabus and course objectives. Furthermore, it will describe the phrases planned for data collection. The second section describes in detail the research's model together with its processes for data analysis.

7 IMPLEMENTATION OF THE STUDY AND DATA ANALYSIS

7.1 INTRODUCTION

This chapter is an extension of the previous one, which discussed the design of the pilot study and its procedures, the research plan and the data collection process. This chapter describes the implementation of the empirical study and the procedures it uses for data analysis.

The chapter describes how each component of the study is implemented, which includes a description of the empirical study, the module's syllabus and its objectives and a description of the participants. In addition, the chapter aims to construct a common view about how to analyse the data that was collected whilst providing a justification for the data analysis technique that was chosen. An overview of how the data was organised in preparation for analysis is included to present to the readers how the evidence collected from the instruments at different times reflected the reality of data that was collected.

This chapter is divided into two main sections. The first section describes the design of empirical study. It includes details of the modules' elements, that is, the course subject, objectives and syllabus together with the characteristics of the participants, i.e. demographic information, their perceptions and computer access. In addition, details of how the data will be collected and organized are described.

The second section discusses the research's qualitative approach to data analysis. The description includes an overview of the methods used to analyse the data. This is followed by a detailed description of the thematic analytical methods that were selected for this research including the procedures used for data collection.

One of the aims of this research is to conduct an in-depth investigation into the potential of web 2.0 in two ways. Firstly, conduct an empirical study that identifies the advantages and disadvantages of classifying learners' perceptions. Secondly by theoretically analysing research into web 2.0 blog tools in higher education.

7.2 RESEARCH CONTEXT

This section will describe the design of the research. The description includes course information, which in turn comprises the course objectives, syllabus, participants' demographic characteristics and the three phases of data collection. It is worthwhile to begin by giving a description of the elements of the module and the participants' demographic information for two reasons. First, it gives the readers a clear vision of the nature of the module. Second it enables readers to link diverse concepts with different findings and results as well as recognising that in order to arrive at an outcome analysis has involved the integration of information. In other words, providing a full picture that pertains to the learning environment will assist in gaining a better understanding of how to enact the research's stages, i.e. planning, acting and observations and when and how data will be gathered, the tasks and the materials used, learners' demographic characteristics and the tasks that are connected to the activities via blog interactions (Cohen et al. 2011).

7.3 RESEARCH LAYOUT

It has been suggested that action research studies should report and record all issues that relate to the study's elements. These records should relate each the rigorous stages of AR including an interpretation of the data that was gathered (McNiff & Whitehead 2009 in Cohen et al. 2011). In addition, the research should elucidate the process that has been applied and associated with the data collection procedure. The researcher considered the questions suggested as guidelines that were made by

McNiff & Whitehead (2009) (see the list below). These guidelines need to be considered by a researcher when applying action research methods.

- What data and how will it be collected?
- “*How the intervention derived from understanding of the situation?*” (Cohen et al. 2011, p.358),
- Once the data has been collected, how will it be analysed?
- How will the intervention be mentioned and reviewed?
- How will conclusions be reached and validated?
- How will consequences change practice?
- How will practice change because of the research’s findings?

Considering the above with respect to the features of Action Research, (see section 5.8.2) the following sections describe the structure of the modules’ empirical work. The description will include full details of the plan for each of the three cycles, i.e. data collection (where and how and with what purpose) and instructions intervention (when and why). The approach to data analysis that was applied to this inquiry will be described later in section 7.4.

7.3.1 EMPIRICAL WORK, SAMPLING AND MODULE STRUCTURE

Most sampling used in qualitative research is purposeful sampling (Lodico et al. 2010). It is also known as judgement sampling (Marshall 1996 p.522). This type of sampling is useful when the research aims to identify key informants. Here the researcher seeks to investigate, in depth, specific information and knowledge about any topic (Ibid pp.136-137) or when a participant’s interpretation or their vision is essential. This research relies on an interpretative paradigm. Here the research seeks participants’ perspectives (see section 5.5.3). In addition, there are different types of purposeful sampling that may be used in qualitative research. Miles and Huberman (1994) categorize seventeen types, while Patton (1990) identifies fifteen. Table 5 includes the commonest types.

Type of purposeful sampling	Explanation	Example
Convenience	The samples selected were those that were the most convenient for the researcher as they were easy to access, low cost and required few resources	Students from a graduate class in education research would be used by a professor as participants
Extreme case	Samples are able to make a point dramatically	Individuals who have the highest number of absences and those who have the lowest will be used for the study
Homogeneous	Individuals with only similar attributes are used in the sample	Participants will be, e.g. children who have attended pre-school and come from similar economic backgrounds
Snowball or network	Participants who possess certain characteristics are selected and asked to refer to others with similar characteristics	Teachers who infuse technology in the classroom will be asked to nominate colleagues who do the same; these colleagues form this group
Typical case sampling	Individuals elected because they represent the norm and are in no way atypical	Teenagers participants who enjoy music will be include in the study
Theory-based sampling	Participants are selected in an ongoing way, e.g. the researcher identifies participants and analyses data from next as the framework emerges.	Sufficient pre-operational children are selected to test Piaget's theory; the researcher next selects formal operational thinkers to test other parts of the theory.

Table 5: Most common techniques of purposeful sampling, from (Lodico et al. 2010)

In this study, the convenience sampling technique was chosen as it seeks empirical groups in higher education to investigate. Thus, sampling, ideally, corresponds to the larger population with respect to the characteristics of interest for male colleges (more information sees in footnote in page 16). Furthermore, it is the least costly in terms of effort, time and money (Marshall 1996, p.523). Most importantly, it provides the researcher with an “*insider’s perspective*” (Lodico et al. 2010, p.134), by empowering the researcher to conduct an in-depth investigation. Thus, this kind of sampling makes the researcher seek answers to the research questions. The researcher, therefore, chose a group of male learners at a teachers’ college to act as the sample population. The group’s characteristics are described as follows.

The group comprised of thirty post-graduate male students at Teachers College⁵⁴ in King Saud University⁵⁵. The module was entitled “Computer Application in

⁵⁴ <http://www.tcr.edu.sa/>

⁵⁵ <http://ksu.edu.sa/Pages/default.aspx>

Education” and formed part of a diploma called “Training the Managers for Managing Learning Resources”. This diploma prepared graduate teachers/learners with bachelor degrees who wanted to aspire to manage educational resource centres in schools. These centres are responsible for providing and preparing resources, materials and programmes. In addition, they support learning environments in schools by assisting teachers to provide strategies and materials that integrate technology in education.

7.3.2 MODULES SYLLABUS AND ASSESSMENT

The main part of the module’s assessment requires the production of a written scenario on an education subject. The scenario should be subjective and adapted for computer application. It carries a value of 40% of the overall marks. The scenario should take into account the fundamentals and the criteria for building an educational scenario for computer programmes and it should have an educational purpose, e.g. improving knowledge, developing skills or raising the attitudes of learners toward gaining and understanding knowledge associated with the module’s syllabus. In order to ensure that the learners are ready and well prepared for reading and undertaking research on behalf of the module, they were required to deliver a presentation by choosing any subject related to the module’s syllabus, which represents 15% of the overall mark. The examination’s paper value was 20% with a further 25% of the marks awarded for the diversity of task activities during the module. More importantly, utilizing interactivities through blogs within the module gained no credit. All learners understood this and were satisfied with this condition. Table 6 is a description of the module’s aims and objectives.

Title	Description
Subject title	Computer Application in Education
Description	To establish knowledge in computer applications, operating systems and software and how to utilize the latter for learning purposes. To help to develop general ideas for the developmental stages and the utilization of computer applications in education. In addition, to cover the obstacles faced when using computer applications in the educational environment. This will include training on the Microsoft Office Package and presenting approaches of how to use it for educational purposes. The final part of this module aims to give an overview of the criteria of how to evaluate and produce educational programmes by identifying the way to design scripts to create subjects.
The goal	To enable learners to evaluate and develop programmes for use in education using limited recourses.
Syllabus	In order to cover the topic of computer applications in education, there are numerous key points and deliverables that will constructively make the learners attain the aims of the course. The module will deliver a number of topics: <ul style="list-style-type: none"> -Background / introduction to computer applications. -Experience of using computers in education. -Patterns of computer applications in education. -Learning theories in education - how to utilized computer applications. -The integration and the interaction of using multimedia in computer programmes. -Use of flow charts. -Writing the script. -Educational programme evaluation - principles and criteria.
Assessment	Writing computer scenario 40% as a final project Presentation 15% Diversity of activities and tasks during the course 25% Paper exam 20%

Table 6: Modules Aims and Description

As seen, the module's syllabus focuses on improving learners' knowledge, skills and attitudes through computer programme integration. One major part of this module is dedicated to improve learners' abilities to critique and evaluate educational programmes i.e. story board. It should be noted, however, that the tasks constructed for this module did not include any activities that involved communication through blogs.

7.3.3 COURSE OBJECTIVES

The main goal of this module is to enable learners to evaluate programme resources and provide a variety of ideas by using computer applications in the learning environment. The objectives of this course are to:

1. Establish knowledge by providing different ways to use computer applications in education.
2. Present the operating systems and application software.
3. Provide lessons on how to utilize computer software applications for learning purposes.
4. Construct a means of assessing the general concepts that underpin the developmental stages and utilization of computers in education.

In addition, this module gives an overview and explanation of the obstacles that teachers would encounter when utilizing computer applications in the education environment. The two main issues that the module focused upon are:

1. Training on the software and presenting an approach how to utilize computer applications in education for the learning environment.
2. Providing an overview of the criteria on how to evaluate and produce programmes for educational purposes by identifying the correct way to write the script.

7.3.4 PARTICIPANTS' DEMOGRAPHICS, PERCEPTIONS AND COMPUTER ACCESS

The course started on 29/09/2010 and finished on 22/1/2011. It, therefore, lasted seventeen weeks. The number of students on the course was thirty. All the students participated in the blog. Table 7 is a description of the demographic characteristics of 24 of the thirty learners who responded to the questions below.

Nationality	Saudi	total=24
Age	25-30	15
	31-35	5
	36-40	4
Highest level of Education	Bachelor	24
Occupation	Teacher	17
	Educations' Supervisor	2
	Director of Learning Resource Centre	5
Marital status	Signal	4
	Married	20
Cities ⁵⁶	Al-Riyadh	5
	Al-Dammam	4
	Al-Hotah	2
	Tabook	3
	Younboh	2
	Al-Qaseem	6
	Al-Zolfe	3
	Shaqra	1
Field of study [Major]	Studies in Islamic	1
	Social studies	4
	Chemistry	3
	Mathematics	4
	Computer science	6
	Arabic studies	8

Table 7: Demographic Characteristics of participants (all are males)

Tan (2009) found that higher education learners should have the ability to judge sources of information, able to regulate themselves and learn the new digital technology. He argued that learners in higher education are more mature compared to adolescences but less than mature students. In this study, the learners are viewed as a technology generation with respect to their responses and attitudes and this means they have the ability to accept and learn new technology features easily.

Before implementation, the perception of the learners was measured with regard to their experience towards particular computer skill based criteria (see Table 8). This enabled the researcher to identify certain aspects as attributes of the participants, as listed below.

- The majority of learners possessed computer skills that made the inability to deal with computer applications weak, i.e. blog services.

⁵⁶ These cities could be found in Figure 1: Saudi Arabia's map.

- The majority of learners enjoyed a wide experience of engaging with computers using different applications, e.g. dealing with Internet browsers, such as, Microsoft Internet Explorer. The instructor, therefore, did not expect to experience any computer error skills from students regarding the integration of blogs in terms of technical issues.
- The participants had not undertaken any internet courses before this study; therefore, their perception and judgement will be unaffected by any previous expertise or attitudes.

Computer Perception	No experience	Very little Experience	Some Experience	Very good Experience
Operating System (e.g. PC, Mac, etc)	-	2	11	11
Microsoft Office (e.g. Word, PowerPoint, Excel etc)	-	1	8	15
E-mail programmes (e.g. Outlook, Yahoo and, Hotmail, etc)	-	-	5	19
Imaging device (e.g. scanner, digital or video camera, etc)	2	1	3	20
Internet browsers (e.g. Firefox, Safari, Internet Explorer, etc)	-	4	6	14
Web searching engine (e.g. Google, Yahoo, Hotmail etc)	-	-	1	17
Web page development programmes (e.g. Front Page, Dreamweaver, etc)	16	1	6	3
Web-based instruction support (e.g. Blackboard, Course Web Pages, Web CT, etc.)	17	6	1	2
Threaded discussions (e.g. electronic bulletin board, blog, forum. etc)	3	8	9	5

Table 8: Computer Perception for Learners before the Implementation of Blogs

Computer access		
I have computer at home	Yes	24
	No	0
I have access to the Internet at home	Yes	24
	No	0
I can access the Internet on the college campus	Yes	24
	No	0
I have taken blending online course	Yes	0
	No	24
I have not taken an online course	Yes	0
	No	24

Table 9: The situation of learners' Internet access before the study

There is no evidence that makes internet accessibility an issue that prevents learners from participating. Table 9 shows that the majority of learners have the ability to use the internet easily.

7.3.5 PHASES OF DATA COLLECTION, INSTRUMENTS, DATA SOURCES, PURPOSES AND TIME

This section discusses how the data was collected and coherently organised using the three cycles of this study. It focuses on the way the cycles' processes are monitored and with the findings and the conclusions that are made after gathering the data from the three different periods. Each period covered one cycle of action research in the inquiry.

Presenting these three phrases or cycles is an attempt to make the reader aware when comparing, linking or understanding the development stages of the study. Their account will present the classified views of participants' opinions and perceptions. The study will present all the data that pertains to the cycles' plans, acts, analysis i.e. data collection times, participants' responses, instructor interventions (when, where and why) and analytical techniques will be followed (how and by which approach). Subsequently the findings and conclusions will be linked (Cohen et al. 2011, p.358). Each phase of the data collection had different objectives and these will be discussed later.

7.3.5.1 Data collection plan and purposes

The data collection was planned in three stages. These stages are compatible with their respective action research cycle. The diversity in the data that is collected is aimed to ensure that the factors and issues that impact upon a learner's usage of read/write web services via blogs throughout the course are successfully identified and classified. It also aims to gain better insights or understandings of learners' perceptions concerning their attitudes, opinions and thoughts. In addition, collecting the same data at two different periods of time (pre-and post-data collections) will enable the researcher to measure the differences that have occurred because of learner

interactions though blog integration. The pre-data collection aims to gather the facts before the implementation using a pre-questionnaire. The post-data collection aims to gather the facts after the study's implementation by using a post-questionnaire. Table 10 describes the three main phases of the action research cycles, including the data collection techniques were used during the study. Table 10 includes a description of the pre-data, central-data and post-data collections.

	Pre data collection Analysis	Central data collection Analysis	Post data collection Analysis
Phases	First phase	Second phase	Third phase
Include	Cycle One	Cycle Two	Cycle Three
Weeks	1-5	6-11	12-17
Data sources	Pre-questionnaire (24 learners) 1 st interview (14 learners). 2 nd interview (1 learner). Observation (learners' behaviours, opinions and activities through blogs)	3 rd Interview (3 learners). 4 th interview (3 learners). 5 th Interviews (1 learners). Observation (learners' behaviours, opinions and activities through blogs) Short Questions during blog activities	Post-questionnaire (30 learners) 6 th interview (2 learners) 7 th interview (1 learner) Observation (learners' behaviours, opinion and activities through blogs) Reports
purposes	To measure the perceptions and attitudes of learners before the study and to determine the understanding of learners regarding the implementation and impact of blogs The aim was also to measure and identify the factors that are expected to affect interactions among learners' activities via blogs with their usage and behaviour. Interviews were aimed to gain in-depth understanding of learners' perceptions regarding current issues. The observations assisted and supported the data collection via a comparison of different data coming from different visions.	To measure learners' attitudes and perceptions during the study and to gain a better understanding by determining the main issues that are being considered via learners. In addition, to continue gathering learner opinions to better understand some of the procedures that have been monitored during the first five weeks. Being close to the learners' ideas, opinions, perceptions and visions. The observations were continued as one long process of recording unstructured data. It aims to record any reflections, actions, opinions that relate to the empirical study that had not been mentioned or covered by other instruments i.e. in the pre-questionnaire and pre-interview.	To measure the perceptions and attitudes of learners after the implementation of blog tools and in addition to determine and understand the differences that occurs between learners with regard to the impact of blogs. The aim was also to measure the interaction among learners' activities via blogs with respect to their usage and behaviour. Interviews were aimed to gain a better understanding of learners' perceptions and thoughts regarding current issues after the study's implementation. The observations were to notice the differences that occurred and to assist and support data collection via comparing different data especially with conflicting data.

Table 10: Summary and Purposes of the Phases for Data Collection

In addition, Table 10 illustrates the three main cycles. Each cycle includes how and when the data is collected and between which weeks. It presents a description of the

data's sources and the aim of each piece of data for each cycle. Before discussing these cycles in detail, the next section will describe the way the data was prepared.

7.3.5.2 Preparing the Data

The data was divided into three main groups. Each group comprises the findings of each data collection cycle.

1. The first cycle includes the findings of the pre-data collection.
2. The second cycle includes the finding of the central-data collection.
3. The third cycle includes the finding of the post-data collection.

Each cycle's aim is to measure the differences in data that occur, as explained below.

The first cycle includes the *pre-data findings* and presents the plan, actions, observations and findings of the data that had been collected from the first to the end of the fifth week. The target population was all participants. They were given with the pre-questionnaire before the study and subjected to unstructured observation and three interviews.

The second cycle includes the *central data findings* and a description of the plan, actions, observations and findings of the data that been collected from the seventh to the end of the eleventh week. It aimed to report and describes the current issues that had been revealed during this period.

The third cycle includes the *post-data findings* and a description of the plan, actions, observations and findings of the data that had been collected from the twelve to the end of the seventeenth week.

As a result, the three cycles have their own data. This procedure ensured the diverse nature of the data that was collected so that the research questions could be adequately addressed and answered.

7.3.6 THE CREATED BLOG

The instructor created a blog in www.blogger.com. The reasons for choosing this provider's services are: *Blogger.com* is commonly used socially in Saudi Arabia. In addition, the instructor had sufficient experience with the blogger to render it more

adaptable. *Blogger.com* supports the Arabic language. As the course was produced in Arabic, this reason makes it appropriate for use in Saudi Arabia.

The blog that had been created was labelled in “Computer Applications in Education,” URL: <http://computerinedu.blogspot.co.uk/>. (See Figure 15), see more shot screen for some posts and comments in Appendix R.

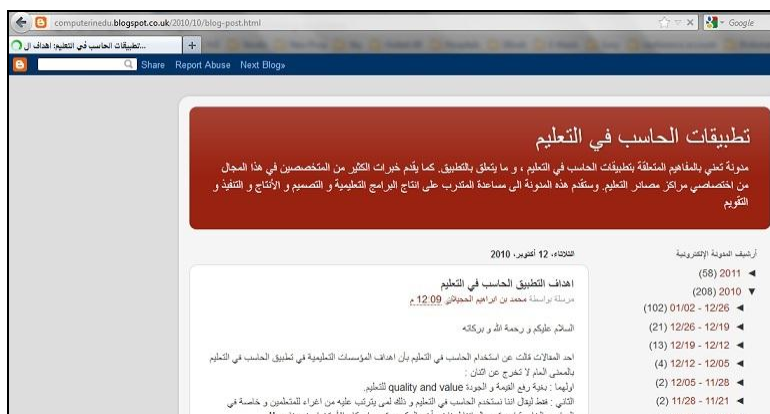


Figure 15: Shot Screen for blogs’ interface utilized in this study

All thirty participants were registered once the blog was created. In the beginning, learners starting by posting and commenting after the instructor posted his first blog. Its content was directly related to the module’s syllabus. This will be discussed in more depth in the section that deals with the first module (below).

7.3.7 THE PLAN FOR DATA COLLECTION

As mentioned in section 7.3.5 data will be collect in three main phases (see section 7.3.5.1 in Table 10). Moreover, each phase was designed to collect the evidence necessary to answer the research questions. For this purpose, the data was collected continuously taking into account the purpose of each cycle. Table 11 shows the time lines for data collection in this study.

As it seen in following Table 11, the pre-questionnaire, pre- and second interviews will be collected during the first five weeks while the post-questionnaire collected during the last week of the study as well as the fourteenth and sixteenth interview.

Three further interviews were planned to be delivered between the sixth and eleventh week. Moreover, observation will run throughout the study. During the study, therefore, there will be on-going unstructured observations.

Data Collection	Week																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Pre questionnaire (T ⁵⁷ =24)		X															
1 st - interviews (t=14)			X														
Second interview (t=1)					X												
Third interview (t=3)							X										
Forth interviews (t=3)									X								
Fifth interview (t=1)											X						
Sixth interview (t=2)													X				
Seventh interview (t=1)																X	
Post questionnaire (t=30)																	X
Observations	XX																

Table 11: Time Lines for Data Collection during the Empirical Study

All in all, this section discusses the research setting components. It presents the module’s syllabus, assessment, objectives and participants’ demographic information. It also describes the way the data is to be collected, prepared and combined with the cycles of action research.

The next section gives an overview of the procedures that were adopted for data collection and qualitative data analysis. In addition, it will outline the data analysis procedures that be will used for data collection.

7.4 DATA ANALYSIS

7.4.1 INTRODUCTION

The previous section described the study’s implementation of its elements. It provided an overview of the research’s design for the empirical study by giving a descriptive of the empirical elements with the module’s syllabus, course objectives, participant’s demographic information and the plan to prepare data for collection and analysis.

⁵⁷ The T= means total

The next section is an extension of the previous chapter. It describes the approaches and the procedures for data analysis. It includes the methods by which data is arranged, presented, displayed and analysed. An overview of qualitative data analysis is undertaken in particular the justification for choosing the thematic analysis approach, which will be used in this research.

The next section is divided into two main parts. This first part discusses qualitative data analysis. It includes an overview of the methods used for data analysis in this research, followed by a second part, that contains the methods chosen to analyse the data, i.e. thematic analysis. Finally it will discuss the thematic analysis procedures that were used to collect the data collected for this research. The main aim of this section is to build a common view on how the data that is collected will be analysed and provide a justification for the data analysis approach that is chosen.

7.4.2 QUALITATIVE DATA ANALYSIS

This research study relies upon adopting a method to collect and analyse data qualitatively (see chapter 5, section in 5.6.3). Qualitative data analysis aims to facilitate understanding the information that is gathered. It involves investigation, classification and arranging the information into charts. In other words rebuilding the raw data that is collected with the aim of answering the research questions (Yin, 2003). Creswell (2009) said qualitative data analysis,

“Generally consists of preparing and organizing the data (i.e. text data as in transcripts or image data as photography) for analysis, then reducing the data into themes through a process of coding and condensing the code and finally represent the data in figures, tables or discussions.” (p.148)

Cohen et al. (2011) claims that there is no set standard in terms of processing qualitative data and that researchers should choose the most appropriate way to analyse it to reach conclusions. These workers also state that there is no single correct

process for analysing qualitative data, rather insisting that the process of analysis should be to establish '*fitness for purposes*' (p. 537).

In addition, throughout the process of qualitative data analysis [QDA], interpretation and analysis become one as explained by Cohen et al. (2007) who said, "*Words themselves are interpretations and are to be interpreted.*" (p. 495). Creswell (2012) further supports this view by explaining that an effective qualitative study has several features. These include the use of multiple methods and rigorous procedures for data collection (being a frame within the nature and assumptions of qualitative research) and a focused project amongst several other criteria for accuracy and believability (see Cohen et al. 2007, p.173).

As explained by Yin (2010), the process of data analysis aims to facilitate an understanding of the data that is gathered. To achieve this understanding the information should be examined, classified and arranged into a chart format in order to analyse it. The data should then be further organised, categorised, classified and 'coded' into a thematic structure.

Qualitative data collections are usually dependent on interpretation, meaning they probably need several explanations owing to the nature of the huge amounts of data that is collected. (Ibid). According to Cassell and Symon (1994) there is no distinction between data collection and data analysis. This view is supported by Cohen et al. (2011), who state that data analysis in qualitative research is distinguished by, "*Merging of analysis and interpretation and often by the merging of data collection with data analysis.*" (p. 537). This means that there is an overlap in analysis and interpretation to reach a conclusion.

The aims of this study are to interpret the perceptions of learner's by exploring their attitudes and identifying the factors that influence the implementation of blog services

in higher education. The research will also focus upon identifying any symbolic or meaningful information, which should be considered. The data collected from the questionnaires, the oral interviews and the observations were both spoken and written, hence the data is qualitative in nature.

This study is based on principles mentioned by Denscombe (2010) who claimed that following them would probably result in outcomes that are more efficient. The first principle is to compact extensive and diverse raw data into a succinct and brief structure. In this research, this was achieved by formulating both the oral and written data into charts and organised tables thus providing the possibility to compare, identify and, determine the data to focus on. The second principle is to make the relationship between the research objectives and the summary clearer. The research objectives are considered the drivers of the research methodology and mode of analysis. The third principle suggests that one should conclude by developing a model in order to improve the research's conceptual basis.

It is important to note that data analysis was manual rather than computer-based involving software, although the latter was useful for gathering all the notes from the interviews and questionnaires and subsequently organising and grouping them into similar themes or ideas. Using software for analysing qualitative data is valuable in terms of improving the rigour of the analytical steps and validating information that does not reflect the researcher's impressions of it. Further, it allows the researcher to analyse the data at a more specific level. Sometimes using software is less helpful, Welsh (2002) argues that software could be less helpful,

“In terms of addressing issues of validity and reliability in thematic ideas that emerge during the data analysis process and this is due to the fluid and creative way in which these themes emerge.”(p. unknown)

This method not only requires careful labelling but also an organised system of filing the data in order to ensure that any data removed from the files is easily set in a new text, i.e. ‘recontextualised’.

7.4.2.1 Different types of qualitative analysis

There are a several types of qualitative analysis, e.g. Grounded Theory Analysis (GT), Hermeneutic Analysis (HA) and Thematic Analysis (TA). These different methods of data analysis have a common objective in that they seek to formulate, reduce, abstract and pre-arrange the data via similar procedures (Cooper-Twamley 2009). These processes also aim to categorize the data via coding and a classification of themes and representing the results in tables, figures and charts (Creswell 2012). Additionally, each one has its own approach and steps of analysis but they all follow a systematic search aiming to analyse the meaning and organising the data in ways that allow researchers to make the patterns clearer. They identify themes, show relationships and connections between the data, improve clarifications and make interpretations of the data while critically analysing or generating theories (Hatch 2002, pp.151–174; Miles and Huberman 1994; Braun and Clarke 2006).

7.4.2.2 Differences between GT, Hermeneutic and Thematic Analysis

Braun and Clarke (2006) argue that Grounded Theory is very similar to Thematic Analysis in terms of procedures that code ‘themes’ or code from data (Ibid pp.8-10). The differences come from one of the main features of Grounded Theory, namely, that their data collection and analysis processes are parallel. In other words, if data analysis is started at the same time as data collection, then further data collection should be grounded upon the data previously analysed (Strauss and Corbin 1990). This approach is not suitable for this research. This is because, for example, the questionnaires in this research were collected during two different phases, i.e. at the

beginning and end of the project (pre- and post- questionnaires). Furthermore, the pre- and post- and questionnaires contained the same questions, since the aim was to measure what differences occurred among the learners during the project (for more information see section 7.3.5 and, Table 10). The method of collecting the pre- and post- questionnaire is compatible with the thematic analysis process (Miles and Huberman 1994) but with the latter there is flexibility to start the analysis of the data at any time during the project where there is no association between the data to be gathered and the result of the process itself (Ibid. 1994).

Moreover, the sample population used in this research was determined and defined before applying the study whereas grounded theory analysis relies on theoretical sampling, which is determined during data collection (Glaser and Strauss 1967). For this reason, it is not appropriate to analyse the data used in this research by GT analysis.

On the other hand, Hermeneutic and Thematic Analyses are similar in that both of them focus upon interpreting the data. Thematic and Hermeneutic analyses are suitable to use to generate theory (Bryman 2008; Miles and Huberman 1994; Hayes 2000; Myers 1997). The Hermeneutic Analysis principle is partly referred to when Myers said,

“The dialectic between the understanding of the text as a whole and the interpretation of its parts, in which descriptions are guided by anticipated explanations.” (Myers 2004, p.107)

Boland (1985) argues that Hermeneutic Analysis can be best utilized for understanding an organisation or the institution as a whole. This means that understanding a part (personal) will result in understanding the whole (organisation) and vice versa. In other words, Hermeneutic Analysis focuses on a wider research

context and takes into account the entire environment of the background of the research during data collection (Myers 2004; Myers 1997; Boland 1985).

Hermeneutic Analysis is unlikely to be appropriate for analysing the data in this research, since this study focuses only on participants' views on the use of web 2.0 via blog services within their learning environments. Therefore, the participants' perspectives used one main board for the purposes of this research. This research seeks to understand the effect of the implementation of the phenomena, i.e. adaptation and adoption of web 2.0 via blogs through learners' contributions, e.g. what are their perceptions, thoughts, opinions, feelings and beliefs. The aim is to arrive at an interpretation of learners' perspectives. This approach is termed 'Interpretive Research' (Oates 2006; Walsham 1995).

Table 12 summarises the similarities and the differences of the three types of data analysis, i.e. Thematic Analysis (TA), Grounded Theory (GT) and Hermeneutic Analysis (HA). It also shows that these methods are suitable for interpretation and they seek to frame, diminish and obstruct by re-organizing data to reach the final stage of codes and themes.

	Approached	Research context	Process of analysis	Samples	Similarities
Thematic Analysis (TA)	Flexible: suitable with inductive and deductive approaches	Best utilized with concerning the data itself rather than others affected variable	Data collection and analysis could/not be parallel	Mostly: determined before the study	-Interpretive research -Seek to formulate, reduce and obstruct with re-arranging data.
Grounded Theory Analysis (GT)	More suitable with inductive	Best utilized with concerning the data	Data collection and analysis are parallel	Mostly: determined during the study	- assists the data for generating theory
Hermeneutic Analysis (HA)	More suitable with inductive	Best utilized with understanding the entire (context) and parts (data of the research)	Data collection and analysis are not parallel.	Mostly: determined before the study	-make patterns, themes and codes -discover the relationship.

Table 12: The Similarities and Differences between TA, GT and, HA Analysis (Cooper 2009; Creswell 2012; Miles & Huberman 1994; Braun & Clarke 2006; Strauss & Corbin 1990; Hayes 2000; Boland 1985; Oates 2006)

In basic terms, Thematic Analysis provides a comprehensive process where the researchers are able to identify more cross-references between the evolving themes and the data (Hayes 1997). It provides flexibility for research patterns in two ways, i.e. for inductive and deductive approaches (Frith and Gleeson 2004; Hayes 2000; Niece 2011; Halldorson 2009). This makes the process of Thematic Analysis more appropriate for analysing the data in this research and it will be discussed in more detail later.

7.4.2.3 Thematic Analysis

Thematic analysis is a type of qualitative analysis. It is used to classify and present themes (patterns) that relate to data. It is able to illustrate data in detail and deal with diverse subjects through interpretation (Boyatzis 1998). This approach was chosen as the data analysis technique for this research. The rationale for its selection is discussed below.

First, thematic analysis is considered the most appropriate type of analysis for this research as it allows the data to be systematically interpreted. In addition, it will allow the researcher to link the analysis of the segments theme to the whole content. This will add accuracy and intricacy to the whole meaning of the research. An understanding of the study, founded upon a diversity of evidence will provide an opportunity to appreciate the wide potential for the application of the technology that has been used during this study, i.e. blog services (Marks and Yardley 2004). Namey et al. (2008) said,

“Thematic moves beyond counting explicit words or phrases and focuses on identifying and describing both implicit and explicit ideas. Codes developed for ideas or themes are then applied or linked to raw data as summary markers for later analysis, which may include comparing the relative frequencies of themes or topics within a data set, looking for code co-occurrence or graphically displaying code relationships.” (p.138)

According to the above, in this study, thematic analysis will allow the researcher to precisely determine relationships between concepts and compare them with the replicated data. Using Thematic Analysis, there exists the possibility to link various concepts and opinions that emanate from learners and compare these with the data previously collected (from the participants) in different situations at different times during the project. All possibilities of interpretation are, therefore, possible.

These features make Thematic Analysis suitable for this study. This is because one of the objectives of this research is to gain an in-depth understanding of learners' behaviours, attitudes and knowledge, which need to be addressed by the data that is collected. This will enable the researcher to compare a large body of diverse data, which sometimes overlaps and conflicts thus making Thematic Analysis more appropriate. The next section will discuss in detail the justification for choosing Thematic Analysis (TA) for this study.

7.4.2.4 Justification for Choosing Thematic Analysis

First, good qualitative research needs to be able to draw interpretations and be consistent with the data that is collected. With this in mind, this research aims to detect and identify the factors that influence the implementation of read/write web services through blog tools with learners in higher education. Learners' interpretations, therefore, are significant in terms of providing the most appropriate explanations for their behaviours, actions and thoughts. This fits in with the features of Thematic Analysis (Hatch 2002; Hatch 2002; Creswell 2012).

Second, Thematic Analysis's flexibility can be applied to two different research pattern approaches, i.e. inductive and deductive (for more information see sections 5.4, 5.6.3, and 5.10) (Hayes 1997; Frith and Gleeson 2004). The majority of the data in this research has been collected via an inductive approach, i.e. the data started from

precise contents then progressed to broader generalisations and then to theories. This tends to ensure that the themes are effectively linked to the data (Patton, 1990). This flexibility enabled the researcher to deal with the observational data collected throughout the study. In such a situation there needs to be a variety of options to frame the analysis around precise words, i.e. ‘descriptions’. Collecting observational data attempts to give explanations of the study’s entire proceedings. In order to compare the data collected with the perceptions of the learners other methods were used e.g. questionnaires as a deductive approach.

This research adapted observational data to investigate the constructed meaning of learners’ perceptions during the study. This was achieved by providing an in-depth analysis with its focus either on individuals or on their learner perspectives as a group (Hatch 2002, pp.161–163).

Third, the purpose of this study is to reach a better understanding of the current practices of e learning particularly read/write web blog tools that were utilised by learners in higher education courses. This was done to investigate and identify the factors that influence the implementation of blogs from learners’ viewpoints, before and after its introduction. This means that there are two main phases for collecting data. The research also sought to examine the impact of the use of blogs on learners’ attitudes. The research, therefore, adapted the questionnaire to collect data during two different phases, i.e. before and after the blog service was implemented (see section 7.3.5.1). This makes Thematic Analysis apt for this type of data collection as the method is not association with the data gathered as discussed in section 7.4.2.2. Thematic Analysis provided the flexibility required to deal with the different times when data was collected during this research (Miles and Huberman 1994).

Owing to the existence of these two phases, the researcher will be able to appreciate the differences and similarities in learner responses before and after questionnaire adaptation. With this in mind, the thematic analysis process is considered suitable to deal with this type of data. The researcher is able to underline the differences and similarities apparent within the data set (Creswell 2012; Boyatzis 1998).

Fourth, Thematic Analysis provides the opportunity to code and categorise the data into themes. This research attempts to investigate the perceptions of participants owing to the implementation of blog services as previously mentioned. In the case of Thematic Analysis, processed data can be displayed and classified according to contrasts and comparisons (Miles and Huberman 1994).

In order to achieve this, the process should comprise of coding, categorisation and ability to note of patterns, i.e. different levels of themes (Braun and Clarke 2006), which are most likely to provide a relationship between the variables and factors in order to create a reasonable and logical chain of evidence (Creswell 2012; Braun and Clarke 2006; Miles and Huberman 1994). Gathering data through Action Research with groups in the learning environment can be achieved by using a variety of methods, such as, questionnaires, observations and interviews all of which result in the data being collected at different times in different situations for different purposes. Therefore, Thematic Analysis will make the production and presentation of the data more suitable and will reflect the reality of its collection (Creswell 2012; Hayes 1997; Miles and Huberman 1994).

7.4.3 THE THEMATIC ANALYSIS MODEL

The analysis of the data in this research follows the model of Miles and Huberman (1994), which consists of three linked stages or ‘streams’, i.e. data reduction, data display and data conclusion drawing or verifying, see following figure.

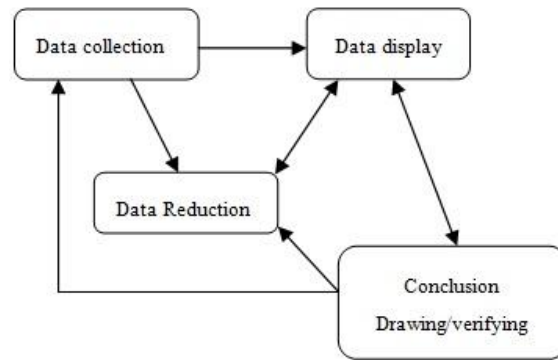


Figure 16: Component of Data Analysis: interactive model in Miles & Huberman (1994, p.12)

Data reduction refers to the process of choosing, focusing, simplifying, building and transforming the data (Miles and Huberman 1994). During this stage, new thoughts and ideas are developed in terms of what should be included in the context of the data display. Data display is recognised by Miles and Huberman (1994) as, “*An organised, compressed, assembly of information that permits conclusion drawing and action.*” (p. 11)

Importantly these stages focus on visualising the data. The data will use diverse display techniques, such as, quotations, narrative texts, figures, tabulating differences and similarities and clarifying their relationships and associated complexities (Gibbs 2002; Miles and Huberman 1994; Yin 2010)

The advantage of utilising such different data display techniques makes descriptions of comparisons and similarities clearer, e.g. by tabulating the data. In addition, it also increases the overall reliability of the research to make it valid for other researchers. Displaying quotations aims to provide evidence, support and validates interpretations (Gibbs 2002; Miles and Huberman 1994)

The final stages of the data analysis process are linked by arranging and organising the research’s concepts and thoughts. This is achieved by building coherent findings and drawing structures for the results from the data that is displayed. During this

stage, the meaning of contradictory and identical data needs to be clarified (Creswell 2012; Miles and Huberman 1994).

7.4.3.1 **The Thematic Process**

Before discussing the use of Thematic Analysis with the data in further detail a few points are worth mentioning that will clearly demonstrate the rationale for adopting this type of analysis for this research and establish a fundamental view regarding its methodology. This will assist the reader with the details and the sequence of how the raw data will be utilised in this research.

In this research, Thematic Analysis focuses on the observational data recorded and relays the participants' own understandings and beliefs. In Thematic Analysis data investigation and generating-theory are combined with its analytical element (Braun and Clarke 2006; Crawford et al. 2008). This appears more appropriate when the researcher is aiming to examine the data to discover the common themes and thoughts from more than one participant. It is beneficial to generate a narrative from the diverse data to gain a clear logical understanding of participants' thoughts and to convey their experiences (Crawford, 2008).

One major goal of this research is to gain a better understanding of participants' attitudes and their reflections regarding the implementation of blog tools, which is observed through their diverse statements. It could be claimed that Thematic Analysis provides researchers with the ability to move beyond calculating unambiguous words or statements or expressing ideas. The themes develop the clues then adapt or connect these to the raw data as summary indicators for deferred analysis. Namey et al. (2008) said that by following these concepts thematic analysis,

“May include comparing the relative frequencies of themes or topics within a data set, looking for code co-occurrence or graphically displaying code relationships.”
(p.138)

Hence, in this research, the researcher recorded reports, notices, comments, figures and tables for the interactions and activities between participants (the learners) and the instructor through blog activities.

To present the content when utilizing Thematic Analysis, the theme must *“describe the bulk of the data”* (Joffe and Yardley 2004, p.67). In other words, a large amount of content, i.e. data is required. This is because although one single statement is significant it does not necessarily express and reflect the full story, especially when the objectives of the research aim to gain insights and try to find relationships from the diverse data elicited by learners. Thus, the researcher needs to provide and describe a large amount of data (Ibid, pp.67–77), which was planned for in this research.

Regarding the advantage of data description, Braun & Clarke (2006) said that Thematic Analysis provides a *“rich and detailed, yet complex of data”* (p.78), which is compatible with Blacker (2009) who argues that a rich thematic description of the entire data would assist him and the readers to get a sense of *“the predominant and important themes”* (p.83), which emanate from the data.

Thematic Analysis analyses the data without trying to engage with a pre-existing theme of concepts. This research relies upon focusing on participants’ interpretations due to the implementation of a read/write web through blog services. Each statement or idea contributes to an understanding of the phenomena and helps to answer the research questions. Every statement is valid in order to understand a single concept or shared with other statements to build concepts and give a full picture of the learner’s views and actions. Further, presenting the similarities and differences between

participants' perspectives will assist readers to appreciate the whole picture (Joffe and Yardley 2004; Blacker 2009).

These guiding principles and concepts were considered by this research when determining the type of data analysis to adopt for this research.

The following sections will describe in detail the process of data analysis following the stages of Miles & Huberman (1994) Model, i.e. data reduction, data display and drawing the data. It will give an overview of the validation of the theme's stages.

7.4.3.2 Data reduction

Data reduction is the first step of the Miles & Huberman (1994) Model (see section 7.4.3) and is described as,

“A form of analysis that sharpens, sorts, focuses, discards and organizes data in such a way that “final” conclusions can be drawn and verified.” (Miles and Huberman 1994, p.11)

It includes the process of selecting, simplifying and transforming the data comprised within the details of the data itself (Ibid). Miles & Huberman (1994) argue that reducing and transforming the data in qualitative research can be achieved in different ways. It could be *“...through selection, through summary or paraphrase, through being subsumed in larger patterns.” (p.11)*. The procedure of data reduction is performed in such a way that conclusions are drawn and verifications are completed. Further, coding is involved by assigning table units to data collected from the participants whether it was a single statement or a longer answer.

The main purpose of coding in Thematic Analysis is to make a connection between different parts of the data coded from participants' responses, e.g. statements and reports. This categorises the allocated information to frame it as theoretical perceptions (Coffey and Atkinson 1996). Coding will allow the researcher to review

the whole data by identifying the most significant meaning or to put it simply what is the data trying to say or tell us (Miles & Huberman 1994; Halldorson 2009, pp.46–49; Ibid 1996).

The following section will discuss and describe the different phases that have been used to effect data reduction in this research whilst giving an example of each step.

7.4.3.2.1 Phases in data reduction

Data reduction in this research was achieved through three main phases: *first, second and third phases for data reduction*. Each phase, however, uses a different way to reduce the data, which will be explained in next section by using an example.

a) The first phase of data reduction

Initially the researcher's aim was to gather the full text of the data and tabulate it in Microsoft Word (see Figure 17) prior to preparing and organizing the content of the data. This meant that the data was ready to be analysed word by word through tables to show any significance patterns or themes (Miles and Huberman 1994; Halldorson 2009). In addition, Bogdan & Biklen (2007) argue that in Thematic Analysis, the data must be read at least twice (p.165) in order for the researcher to “*get a feel for the text by handling your [the] data multiple times.*” (Ryan and Bernard 2003, p.11).

Regarding this issue Bernard (2000) mentions an ocular scan method, which has been argued that it is one of the best ways for the researcher to ‘*hunt*’ themes and patterns in qualitative data (see Attard & Coulson 2012, p.501; Kim 2008, p.12).

Interview NO.1 Week 2, 14 Students	
Question One: Do you think that there are advantages / disadvantages in utilizing blog in education?	
Responded	
S1:	It is my first time to use the blog. I don't think it is disadvantageous, I expect that it is good and useful as it entails discussion and dialog. In the beginning of communication, I felt that there is a connection and interactive between the Lecturer and Students, which is important.
L:	What are the causes that would make the communication being more?
S1:	The most important is the exchanging the experiences of the information and credibility as you know the informer, it is much serious
S2:	It is not my first use of the blog, it was personal use.
S3:	I think it is useful at a certain stage.
L:	Which stage do you mean?
S3:	I mean a stage of communicate when needing information.
S4:	I have more than one blog, but it is the first time to see one dedicated for education.
	Why?
	Because it is governed by laws, socially purposes only used.
	Which rules do you mean?
	The rule of any modules, if it is structured or not.
S5:	I know about the blogs, once I had personal one for articles publishing but this one is first as in educational blog.
S6:	I was not aware how to deal with blogs but I have past experience about those concerning by my studying sources at Oman's' blog, as there has been hyper communication which was so useful to me.
	Its usage in the classroom as a group, and seen strange to me thinking that it was a websites for posting your researches and diligences the ideas.
S7:	More interaction in blog, in the beginning it was one sided but now there is interaction.
L:	Which side do you mean?
S7:	Students side only without lecturer participation.
	How?
S7:	First I thought it as personal reference websites with no interaction but now it has interaction and development for ideas and thoughts.
S8:	I agree with most of the above opinions
S9:	I had and experience in the 2 nd class, during applicative competition for high school students, where there

Figure 17: example of full data tabulated in word files e.g. interviews

The researcher found that reading the data a few times before and after identifying the themes and codes was supportive because:

- It allowed the researcher to see the full picture and make a connection between participants' thoughts, ideas and the data collected through observations.
- Reading prior to starting allowed the researcher to identify and have more time to evaluating the data before entering into rushed conclusions. (Alhojailan 2012d)

b) **The second phase of data reduction**

This phase started by highlighting the related sentences from each participant. These related sentences could be used to answer the research questions, i.e. excerpts from full text (see Figure 18). It is advised that researchers should keep an eye on the research questions at all times during collecting and analysing the data (Halldorson 2009) and what happens during this phase. This will assist in searching for the

excerpts in terms of their relevancy and accuracy with respect to the objectives of the inquiry.

participant information	questions 4	Part5, Questions 1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	9/9
	Questions idea: Accept to be participate and recommended to others	Convenience	Content	Interactivity	Discipline & motivation	Transferability	Enhance learning	Interest	Time	Easy to use
PR.S1	Yes, because it has lots of features, would enrich the learners in the subject related.	it is not linked with time and places, you are able to write and sharing in any time and places.	interactivity is provided between the learners and exchanging the experience and activities.	when there is a subject posts, will allowing every one to interactive with each other. Every one are able to participate with giving ideas and thought which will increase to learn.	: offers an exciting ways and provides with no link with time and places.	because it is not complexity and smooth to used, also it is clear to understand.	when there is an instruction to use, the posts and comments will be around the subjects, which will back huge benefits and help to reach the aim of the subjects.	not limitation with time and places. Also, using lots of writing would improve the skills of writing and reading.	Strongly agree: writing dose not need lots of time -for me-, and it is not limited or linked with the time of being in class.	Internet access providers in most time and places.
PR.S2	I will accepted because: 1. it is easy to use for learners. 2- there are multi option in control panel. 3- ability of easy to comment. 4- ability of linked with sharing websites such as facebook, twitter.	because the easy to use	Contents make me got lots of experience during using the blog with the course	the ability of link it with other's social networks.	the feedback is taking short time and it is assist	I found that with experience that I got in this course, it is beneficial	No comment	based on my experience in the course, it is interesting.	disagree; it takes lots of time when we want good value of the information.	Based on my experience. It is interesting.
PR.S3	Yes I'll accept that if there are rules and instruction for each post, for example, each week should have only one subject or post and close in particularly time.	Because the way of comment and post via internet which mean the ability of doing activity in any time.	We are able to publish research or article are very rich and useful.	Blogs is allowing to discuss and post with comment in one particularly subject".	There is a positive side to share between learners.	I did not find any difficulty for post or comment.	As we have touched this with one subject during the course.	I have found that almost learners trying to get the intention to him by his posts.	With the recent technology and the ability of connect for every one to the internet, there is no difficult to do any search for doing of any activities	Because it is quick for reading and writing.

Figure 18: An example of tabulated full text of data into a word file from post-questionnaire

Ryan & Bernard (2003) said, “We highly recommend pawing through texts and marking them up with different coloured highlighter pens.” (p.11)

Therefore, all the data was highlighted to prepare it for the next phase.

c) The third phase of data reduction

This phase involved using highlighted related sentences and then breaking the data into smaller segments or themes. These segments or themes refer to the sentences of a paragraph as shown in the first column in Figure 19. This established the first themes from the data. After this, the researcher then read the full content again to compare, contrast and or search for missing information that did not appear in the first thematic level (Ryan and Bernard 2003).

**Post- Questionnaire
Part 4**

Attitude questions: Accept to be participate and recommended to others	
Responded	Code
P1: features, enrich the learners in the subject relate	features
P2: is easy to use, there are multi option in control panel, easy to comment, ability of linked with sharing websites such as face book, twitter	Easy to use Diversities option to use, Sharing information
P3: exchange the experience to get benefit	Exchanging the experience
P4: communicate with enrich the subjects.	Communication
P5: good methods to communicate between learners and teachers, engage student with technology, students will be participate in the subject.	Communication
P6: connected and exchanging ideas and thoughts	Exchanging experience, Communication
P7: 1- easy to use, 2-it is collecting all needs for learning requirements, and 3- you are able to share and post with others' experience.	Easy to use, Exchanging experience
P8: , my intention has been increasing for the importance of the adaptation such this tools	Improving knowledge
P9: Yes, I will accept it, because of the higher level of the value of transferring the information via blogs, also it is suitable for higher education level	Tools value
P10: interactivity and discussing	Interactivity
P11: interactive if all the participates are one group related in some way	Interaction
P12: blogs raises few important interesting side in supporting and enrich the learning environments	Assisting learning
P13: benefit, communicate and exchanging the experience.	Communication ,

Figure 19: First level of themes map identified from the full text of data in the first column

The data was first developed under the first level of themes. Subsequently the researcher transferred and tabulated those into a new Word document as shown in Figure 19. This was done in an attempt to make the themes clearer and understandable in terms of the research's focus. The data was then prepared and readied for identifying and classifying the second level of themes.

Before one proceeds to identify the second level of themes, i.e. codes, it is worth discussing the evaluation process used to validate the themes during this phase (Alhojailan 2012a; Braun and Clarke 2006). The evaluation process aims was to make sure that the excerpts from the themes represented the whole text. This will be discussed in the next section.

7.4.3.2.2 Theme reliability and validity

One important step in Thematic Analysis is that the 'themes' need to be evaluated to make sure that they represent the whole text. Miles & Huberman (1994) said that

validating themes in the early and late stages during data analysis is essential. In this research, an outside reviewer⁵⁸ had been involved in the early stage with the first level of themes, i.e. first column in **Error! Reference source not found.** to evaluate those themes had had been identified. The purpose of the outside reviewer was to test whether the themes are compatible with the whole text. The researcher then involved an independent reviewer⁵⁹ to compare the feedback that came from the outside reviewer about the identified themes by giving his evaluation and feedback (Miles and Huberman 1994). The main purpose for this stage was to “*Build reliability in themes analysis coding.*” (Hosmer 2008, p.52). Subsequently the researcher discussed any resultant conflict with themes that had been added or removed by both the outside and independent reviewer’s feedback (Miles and Huberman 1994; Hosmer 2008).

The researcher proceeded to check the data for written samples for each agreed theme. With the list of themes that were agreed with the outside reviewer, the researcher read each statement again and re-collected excerpts from the participants that supported each theme. Late checking and verification was established by involving an independent reviewer to evaluate the overall themes and to demonstrate and confirm the details of textual excerpts, “*Similar to validity in positivistic term.*” (Hosmer 2008, p.52)

Miles & Huberman (1994) state that by including outside and independent reviewers at two separate phases during the process would ‘probably’ build a strong procedure

⁵⁸ The outside reviewer was Dr. Mohammed Altayar. He is the Principle Lecturer at Imam University’s Technology Department of eLearning in Saudi Arabia. He had been chosen because of his practical experience in the field of eLearning in higher education in Saudi Arabia. In addition, his interest in this research stems from his investigations into portal facilities in higher education that integrate eLearning tools within learning environments.

⁵⁹ The Independent reviewer was Dr. Khalid Swesi who is experienced in the field of eLearning. His interests include developing models to assist educationalist to provide eLearning, particularly with Blackboard® (LMS). He is experienced in training that involves eLearning tools in higher education, blackboard administrator and assessor.

for analytical credibility, “*Similar to reliability from a positivistic perspective.*” (Hosmer 2008, p.52). By the end of this process, these validations were completed for the first level of themes and in second stage for the second level of themes (see first and second column in Figure 19).

In addition, it is worthwhile to mention that the validation process was beneficial for the data, especially at the first level as it provided accurate and reliable themes for the second. Furthermore, it makes the data at the second level of themes less prone to error and mistakes. This is shown at the second level of themes by the ‘codes’. The codes agreed at the second level by the independent and outside reviewers were very consensual. There was less difference between the reviewers at the second level compared to the reviews of the first.

The next section will explain the second step of Miles & Huberman's (1994) Model. It will describe how the data was displayed, as it essential for the researcher to make the data easy to monitor.

7.4.3.2.3 Data display

The second main step of Miles & Huberman' Model (1994) is data display (see section 7.4.3), i.e. retrieving the data through the use of displays (Coffey and Atkinson 1996). It should be noticed that this stage is not separate from data reduction but complements it (Miles and Huberman 1994). Data display is, “*The organized, compressed assembly of information.*” (Ibid 1994, p.11). It aims to make sense of the data that is collected. The data display makes the data more organised and arranges the concepts and thoughts (Miles and Huberman 1994).

After reducing the themes via the reduction stage (see section 7.4.3.2) the researcher returned to the research questions to access information related to similar concepts. For example, one aim of this research is to examine the impact of the adoption of blog

services on learners' attitudes. To achieve this particular aim learners' attitudes and perceptions were required so the researcher displayed the related data for this aim (see example in Figure 20, for example: data displayed could see in chapter 8, sections 8.2.1.1, 8.2.1.2 and,8.3.2.2.1). This procedure was repeated for all the data and resulted in the display of a large amount of information. There were a number of reasons for displaying the data.

- The ability to view and enhance the data so it is clear to research
- To avoid data overload during the process of analysis
- To make sense of the collected data by displaying related concepts from different contrasting and similar statements (Miles and Huberman 1994; Halldorson 2009).

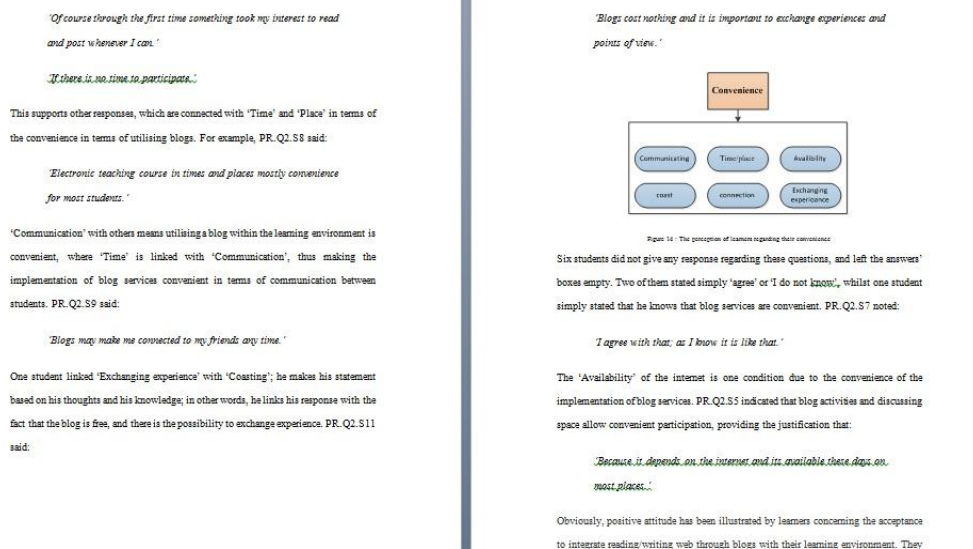


Figure 20 : An example for displaying the data from the questionnaire related to attitude perspective.

All the data that related to each question was organized systematically, therefore, allowing the researcher to explore the differences, similarities and interrelationships by entering the data into conceptual clusters for analysis. Data display relates to the descriptive method and aims to gain a conceptual coherence by collating items that belonged to each research question (Miles and Huberman 1994). The process whereby data reductions were organised will be described in detail (Ibid 1994; Braun & Clarke 2006). Its analysis will go further than at the present. The analysis will mostly include

various interpretations of the concepts that relate to research topics where it needs to support the statements by presenting the relevant evidence (Boyatzis 1998; Blacker 2009).

In this research, displaying the data used a variety of techniques for its analysis. It included figures, tables, graphs, charts, maps of categories, narrative text and quotations (Miles and Huberman 1994; Yin 2010). These researchers state that all kinds of data display aim to

“Assemble organized information into an immediately accessible compact form so that the analyst can see what is happening and either draw justified conclusions or move on to the next step of analysis. The display suggests what may be useful.”
(Miles and Huberman 1994, p.11)

For the researcher in this study, it was found that displaying the data in a variety of ways, e.g. tables, figures and theme maps gave him an opportunity to gain an extra in-depth understanding of the data itself. Each method provides the ability to expand the explanation of the data, e.g. tabulated files provide an appropriate and convenient technique to assist and make comparisons through different themes using maps (Gibbs 2002). In addition, using direct quotations in this research supported the interpretation of some statements (Patton 2002).

Utilizing different data display techniques gradually framed the information so that the researcher was able to focus and organise his thoughts by linking and comparing the data to reach conclusions (Miles and Huberman 1994; Gibbs 2002).

7.4.3.2.4 Data drawing, conclusions and display

Data drawing and reaching conclusions represents the third component of Miles & Huberman's (1994) Model for Data Analysis (see section 7.4.3). These workers offer some suggestions that enable researchers to draw conclusions by using a variety of ways to display the data (see section 7.4.3.2.3). Some ideas suggested by Miles &

Huberman (1994) to generate meaning from the data were adopted by this research, including:

1. The notation of any patterns or themes and the relevance of any statement, especially if similar or contrasting.
2. Grouping or establishing categories of “information that can go together”.
3. Interrelationships among factors and variables.
4. Building a conceptual coherence and consistency. This should explore the validity of the findings to fit with the theoretical frameworks of the study.

The data drawing and display stages are not separate from data reduction and display as we explained in section 7.4.3, because they complement each other. In addition, they involve drawing data and verification (Miles and Huberman 1994).

7.4.3.3 Model Analysis Adapted

This section discusses the details of the data analysis methods used in this research. It includes a step by step description of the process of Thematic Analysis for data analysis in this research, i.e. Miles & Huberman (1994) Model (see section 7.4.3). This section also discusses in detail the extraction of the data into themes (see sections 7.4.3.2, 7.4.3.2.3 and 7.4.3.2.4).

In addition to the above, the analysis of the data began while it was being collected. Furthermore, the analysis continued throughout the main stages of the research.

The first stage is data collection. It includes the step where the data has been translated and transcribed. The second stage is data analysis, which in this study was thematic following Miles & Huberman's (1994) Model (see section 7.4.3). The second stage includes data reduction, data display, drawing conclusions and verifying data (see section 7.4.3 and 7.4.4). The final stage addresses the reliability and validity issues of the analysis. This involved one outside and one independent reviewer (two in total) who assisted the researcher in validating the themes (see section 7.4.3.2.2).

The main aim of this stage was to assess the codes and themes that had been identified and to ensure that these themes embodied the whole text (see section 7.4.3.2.2).

All the previous stages were adapted for this research as explained in section 7.4.2.3, 7.4.3.2, 7.4.3.2.2, 7.4.3.2.3 and 7.4.3.2.4. Figure 21 is based upon the above sections and it illustrates the main stages of the process for data analysis that were followed by this research.

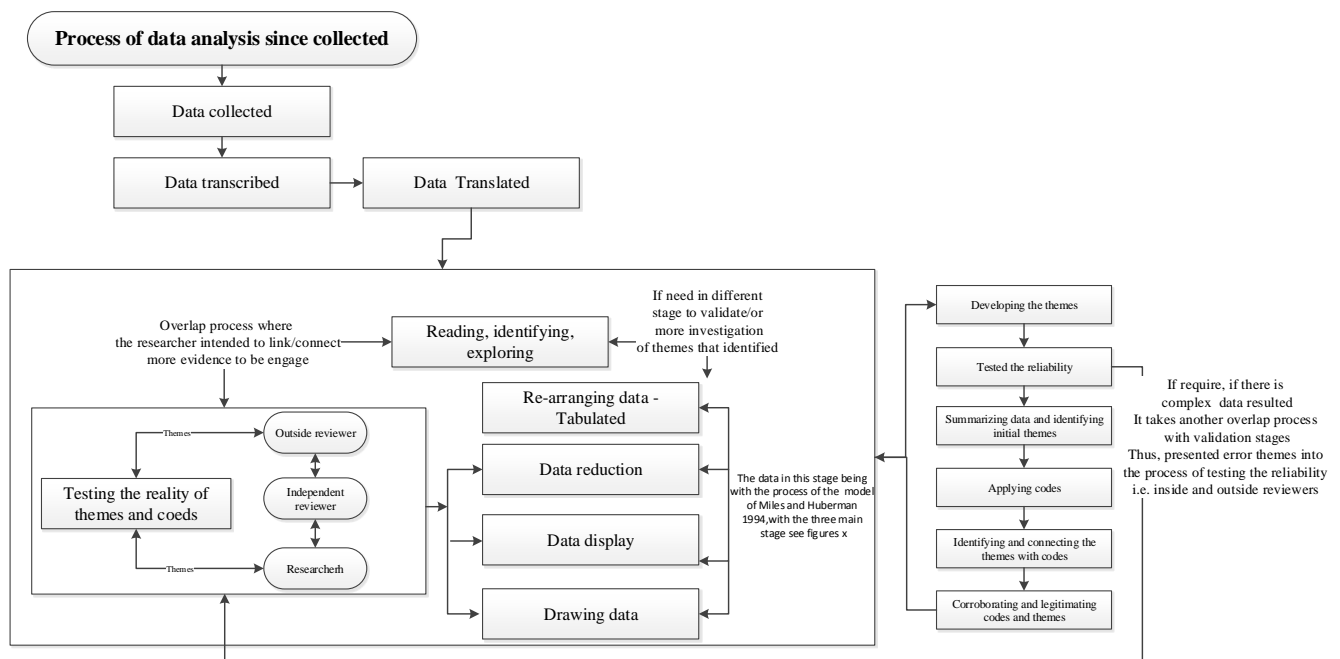


Figure 21: Data analysis process utilized in this research, adapted from (Miles and Huberman 1994; Fereday and Muir-Cochrane 2006; Ryan and Bernard 2003)

The figure shows that the data was first collected, transcribed and translated. It was then analysed using the analytical process for the Miles & Huberman (1994) Model. Analysis of the data was achieved in four main steps: data reduction, data display and data drawing with re-arranging the data. Re-reading the data was significant in order to connect between the participants thoughts and re-identified themes (more details are provided in section 7.4.3.2.1 in Part A). All these steps overlapped, (see sections 7.4.3.2, 7.4.3.2.3 and 7.4.3.2.4). The aim of re-arranging and tabulating the data was to formulate and reduce data (see Table 12). During the analysis, the researcher

engaged outside and independent reviewers to validate the themes and codes that emerged from all data that was collected, i.e. pre- and post- questionnaires, interviews, observations and to classify the relationships and links between themes and codes (see section 7.4.3.2.2).

These steps took place sequentially in order to develop validated themes and codes enabling the researcher to determine the final themes of codes more easily. This was achieved by identifying the connections between the codes via the relationships between the data that had been proved by the outside and independent reviewers.

The flexibility of these interrelated processes allowed the researcher to repeat any stages or steps when necessary. For example, if there was a need to identify or detect further references or more evidence toward some themes or codes (concepts) in the later stages of the analysis. This flexibility allowed the researcher to go to the early stages of the research to access the original data that had been reduced. In this model, as a result of these themes, the final step for testing reliability is achieved by linking the process of validating the data by involving the outside reviewer, the independent reviewer and the researcher.

7.4.3.3.1 Analysis of the Pre-data

As explained in sections 7.3.5.1 and 7.3.7 the pre-data collection contained all the data that had been collected during the first cycle (from first to fifth week). It included the re-questionnaire, the pre-interview and interview number 1 with one learner and blog content analysis. More information is found in Table 10. The pre-data collection included all the data that was found during the above period of time. It covered the first cycle of action research. Miles & Huberman (1994) strongly advise to complete an early analysis, especially for a study designed to use different data collection processes.

“It makes analysis an on-going, lively enterprise that contributes to the energizing process of fieldwork. Furthermore, early analysis permits the production of the interim report that is required in most evaluation and policy studies.” (Ibid, p.50)

Applying early analysis is appropriate with the methods adapted in this research where the action research process requires an initial analysis for each cycle (section 7.3.5.1).

The analysis, completed during data collection was conducted during the action research process (see the sections in the following chapter). The preliminary analysis of the pre-data collection, however, began after collecting the pre-questionnaire data and the pre-interviews, which commenced during the first week and finished by the end of the second (see section 7.3.5.1, Table 10). This phase relied on learners' views and attitudes regarding the integration of blog tools using the pre-questionnaire. The first and the second interviews aimed to confirm what information the researcher still required as some of the data needed further discussion and clarification (Arksey and Knight 1999). Observation was the most important instrument for data collection in this study (see chapter 8 in section 8.2.3). Its aim was to gather inside and outside information, such as, learner behaviour and opinions, to observe the activities of the learner and their reflections throughout the blog engagement process.

The pre-data phase was intended to find initial clues to explain learners' perceptions and to address the information that needs to be analysed to inform the strategy needed to run successfully the second cycle of action research. This required the central-data collection, as explained in the next section.

7.4.3.3.2 The analysis of Central - data

Central-data includes the information that was collected from the seventh until the eleventh week of the research (see Table 10). The data in this phase included the third, fourth and fifth interviews. The third interview was conducted during the

seventh week with three learners, the fourth during the ninth week with three learners and the fifth with one learner in the eleventh week. This stage also included the any observations that were made during this period and a variety of short questions that were given to the learners through blog tools. This period of analysis covered the learners' responses and reflections regarding the second cycle of action research as well as the blog content analysis. This period also included particular cases where some learners showed unexpected reactions, e.g. the case of a learner who started very dynamically but by the middle of the study had become less active. The analysis of this data assisted re-planning for the next cycle, which included the post-data collection as explained and discussed in the next section.

7.4.3.3.3 The analysis of Post - data

The third main stage included data that was gathered in the third cycle (see Table 10). This comprised the post-data collection, the pre-questionnaire, the observations made during this period, the sixth and seventh interviews, which involved three learners in the fourteenth and sixteenth week respectfully and the results of the blog content analysis. The researcher now possessed all the study data that was needed for an entire analysis.

In addition, this stage allowed the researcher to provide theoretical values by delivering to the reader coherent and consistent sequences of actions and events that reflected the action research model. In addition, the three main stages, i.e. the pre-data, the central-data, and post-data analysis collections (see section 7.3.5.1, Table 10) could be integrated with the thematic analysis model of Miles & Huberman (1994) (see following Figure 22, it summarises these main stages and the integration described above.

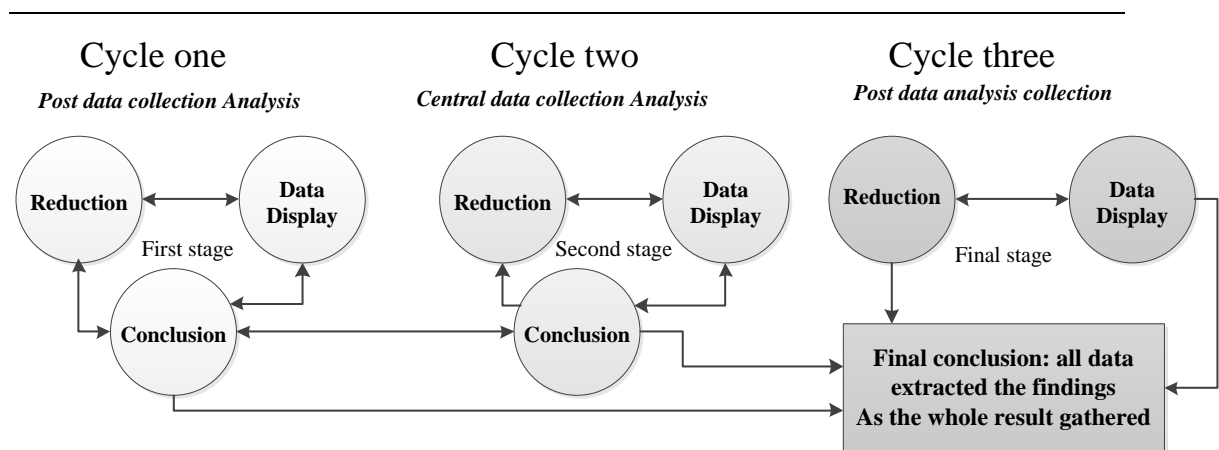


Figure 22: Stages of the data collection analysis of action research cycles integrated with the thematic analysis model of Miles & Huberman (1994)

Figure 8 shows the preliminary steps that the researcher followed to analyse the data. The steps that were followed for the data main findings, however, were applied three times; each time following the different stages of the Miles & Huberman (1994) Model. The analysis of the data was sequential starting with the pre-data then the central-data followed by the post-data analysis collections. A final round of analysis was conducted when all the data was combined. These stages, however, did not represent a linear process, as there is always the possibility of overlap between each stage. The researcher needs to associate variations in meanings that could occur.

7.4.4 DATA REFERENCES

During data transcription and transfer processes, the researcher adopted quotation marks for actual quotations from questionnaires and interviews. Every question from the interviews and questionnaires was assigned a different number to specify certain question types, i.e. for questionnaires, interviews and time. In the case of questionnaires, PR, Q1 and S1 refer to Pre-questionnaire, Question 1, Student 1, respectively. PO.Q1.S1, therefore, refers to Post-questionnaire, Question 1 and Student 1. In terms of the interview, I1, W1 and S1 refer to Interview 1, Week 1 and Student 1, respectively. The data has been referenced to cater for interviews that included more than one student, therefore, making tracking the sources easier. In the

context of observation data analysis, OB1 and W1 refers to Observation 1, Week 1, respectively and so forth with the rest of the data (see Table 13 for a further explanation). Thus, it is considered that this approach will make the presentation of the information and analysis simpler for the reader to follow. A good advantage of using references is that the data will not be replicated; therefore, every item was assigned its own reference (Altayar 2011).

Symbol	Meaning
PR.Q1.S19	This statement comes from Pre-questionnaire instrument, question number 1, student 19
PO.Q4.S14	This statement comes from Post-questionnaire. Questions 4, student number 14
I3.W7.S1	This statement comes from student number 1, in the seventh week, interview number 3
O2.W5	Observation two, in the fifth week
R1	Report one

Table 13: Examples for the meaning of the data references

7.5 CONCLUSION

This chapter described the implementation of the research's components, an overview of the research's design, i.e. its research context and layout, empirical details, module components and the characteristics of the participants. It outlined in detail the data analysis used in this research, starting with an introduction to qualitative data analysis then a comparison of three different methods of qualitative data analysis and thus, justifying the chosen thematic analysis process for this research that followed the Miles and Huberman Model (1994).

The chapter discussed the detailed structure of the model including a description of data reduction, data analysis and data drawing and conclusions. The chapter was able to clarify the data analysis process, which followed these stages. It then discussed the phases of data analysis drawing and findings that will be conducted in the next chapter. The chapter found that Thematic Analysis is suitable for this research as it incorporated different approaches that are deductive and inductive data driven (Boyatzis 1998; Crabtree and Miller 1999).

The next chapter will provide a detailed description of the findings of the three cycles of action research of this study. These findings, however, will primarily focus on the data that is linked with the objectives of this research.

8 ACTION RESEARCH CYCLES

8.1 INTRODUCTION

The previous chapter described the inquiry's approach, implementation, research elements as well as a justification for procedures used for data analysis. In addition, the phases of the data collection plan were clarified.

This chapter is an extension of the previous one. It presents and describes the action research cycles in detail. Each cycle will consist of a number of procedures i.e. planning, action, data collection, evaluation and the observation. These procedures will produce data that is sequential in nature. Furthermore, this chapter attempts to provide an overview that highlights the learners' interactions and opinions with respect to their reflections. In addition, the chapter will present and describe the details of the blog content analysis.

This chapter is divided into three main sections. Each section will describe one of the three cycles with its processes and evaluation and linking it to the next cycle (Costello 2003, pp.3–4). The activities of each cycle will be presented in sequence together with their outcomes.

8.2 FIRST ACTION RESEARCH CYCLE - THE PLAN

8.2.1 THE EFFECT OF THE PILOT STUDY

This section presents the plan for first action research cycle and describes the elements that enabled the implementation of the first blog. The plan for the first cycle, which is empirical in nature, was informed by the pilot study. In addition, the pilot gradually exercised the skills of the researcher so that he became familiar with and proficient in the methods for collecting and processing the data, its analysis and

involvements and interventions with the participants. The reason for using the pilot study in this way was to enable advanced preparation for two main purposes.

1. For the researcher, to become engaged in-depth by interacting with the learners in order to grasp the relationship between the new web's integration and learners' attitudes and opinions so assisting in the design of the empirical study and
2. For the researcher to become aware in advanced of any barriers and obstacles towards understanding the current issues. The researcher was thus able to avoid them in the empirical study.

The main issue considered by the learners in the pilot study was *interactivity* and *communication* through blogs between the learners' and the instructors' interactions (see section 6.4). With the research questions in mind the initial plan for the first cycle of the empirical study was to started by engaging with learners in their new environment, i.e. by activities through blogs. The role of the teacher will be an active one as directed by the needs of the class as in a normal classroom setting. No extra effort will be exerted beyond what is necessary to facilitate the e-learning process. In addition, the learners were encouraged to select their own preferred learning strategies. No specific instruction or preference shown for any particular activity or learning style by the instructor. This was a deliberate strategy in order to minimise any interference to the learning experiences of the students. This will be discussed the next section in more detail.

8.2.2 BEGINNING OF THE PROJECT – IMPLEMENTING THE BLOG

The instructor suggested creating blogs to make an online environment where all learners are able to voluntarily contribute content, i.e. post and comment at any time with no instructions or rules. The learners were told to “*Just participate as much as you would like, in any subject that related to the module's syllabus.*” (see module syllabus in chapter 6, section 7.3.2). The reasons for creating blogs with no instructions or rules are:

-
- 1) For the first cycle, it was an attempt to investigate and reach into the first reflections of the learners' behaviours and perceptions with respect to the implementation of blog services. Furthermore, any instructions about blog usage would (mostly) disturb the learners. For example, if there were a number of posts and comments that learners had to follow, they most probably would modify their behaviour and their interactions to become compatible with the instructions that had been given. In this situation, therefore, it would not be possible to take a measurement that reflected their true actions or attitudes. This was one lesson that was learnt from pilot study (see section 6.4). The learners during the pilot study followed the protocols required to participate in blog interactions. This meant that the measurements that were made of their behaviour did not reflect the reality of their attitudes and perceptions. Therefore, their blog activities were monitored to ensure that they followed the instructions. The number of posting and comments on the blog was pre-determined. All learners were limited to 2 posts and 5 comment per week. The first cycle, therefore, was left with no instructions or guidelines regarding blog activities.
 - 2) In addition to the previous point, the researcher gained and built his concepts based solely on learners' insights of their experiences and actions of using blog services with no rules and guidance that could affect their actions and behaviour. One aim of this research was to gain an in-depth understanding about the way learners used blog services and determine their attitudes and the factors that would influence their self-participation. It was, therefore, necessary to start to plan the action second cycle upon output that was not comprehensively directed by any structure or instruction that emanated from first cycle.

Thirty learners had been registered for the course. One condition was contingent upon all the participants, i.e. all blog content was to be shared and preferably related to the course syllabus. All the learners agreed this condition.

8.2.3 PRE-DATA COLLECTION

The *Pre-data collection* was gathered before/during the first six weeks of the research. This section reviews the details of the learners' interactions, opinions, perceptions, arguments and behaviours that occurred during this period between themselves and the instructor together with their interactions with the blog services. The section also includes the pre-questionnaire, i.e. pre-attitude and pre-factors (24 learners), the first interview (14 learners) and the second interview (1 learner) and the observations including learners' actions and their excited blog activities, posts and comments upon content analysis, the nature of content and participants' reflections regarding their interactivities (see chapter 6, section 7.3.5.2, Table 10).

Once the data had been collected it was analysed. This meant that the researcher started to analyse the pre-questionnaire immediately since it was gathered in the first and second week (for more information see chapter 7, section 7.4.3.3.1, 7.4.3.3.2 and 7.4.3.3.3). This immediate analysis assisted the researcher in monitoring and evaluating the plan for each cycle.

8.2.4 DISTRIBUTING THE PRE-QUESTIONNAIRE

The empirical study was started by creating blogs with the thirty learners. The pre-questionnaire was distributed to the learners during the first and second week. The purposes for collecting pre-questionnaire data was to obtain an overview of learners' perceptions, opinions and interpretations together with their attitudes before further experience with the blogs (for more information see Table 10). By collecting pre- and then post-data, the researcher would be able to compare the before and after experiences of the participants. The majority of the learners provided positive expressions with respect to their attitudes toward blog utilisation within their learning environment. This is discussed over the next sections.

8.2.1 PRE-ATTITUDE, FACTORS, ISSUES FINDINGS CONSIDERED

Data was collected from the first cycle. The process can be described in four parts.

- a. The **First Part** reviews the findings of the pre-questionnaire into learners' pre-attitudes. The pre-attitude questionnaire included a question concerning the ability of learners' to accept the use of blogs. The question was "*If you or your friend were offered an online-course via blog activities, would you take it or recommend it to your friend or not? Please explain why and why not?*" see part four in Appendix P (Williams and Jacobs 2004; Al-Arfaj 2001).

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- b. The **Second Part** is comprised of the findings from the pre-questionnaire about the learners' perceptions regarding their interpretation of each concept. Nine concepts or components were investigated, i.e. convenience, content, interactivity, motivation, transferability, enhancing learning, interest, time and easy to use (see chapter 3 section 3.3.4 and, Appendix P). The aim was to identify learners' perceptions and opinions before the study with respect to these components and to compare their perceptions before and after implementation to identify the differences that arose between implementation and blog integration.
- c. The **Third Part** contains the findings of the *pre-Interview*, i.e. the first and second interviews of the issues that were considered by the interviewees. The purpose of the interviews were to anticipate the outcome (data) and gain a better understanding about participants' perspectives due to the use of blog tools (for more information see chapter 5, section 5.9.4). The pre-interviews were structured to include five questions that covered a wide range of concepts (see appendix Appendix Q). The interviews focused on gathering learners' perceptions concerning their actual knowledge and experiences about web 2.0 via blog services. Their opinions about the advantages and disadvantages and possible future developments of blogs were also sought as a result of their experiences of using blog tools.
- d. The **Fourth part** includes the findings of the observation. Observations were sought about learners' behaviours, actions, usages and the nature of their interactions via blog services and their opinions.

An account will be given of the nature of learners' interactions through blogs, blog activities, the nature of content of the blogs that were posted and their reflections regarding different issues, e.g. their interactions with respect to activities of their instructors.

8.2.1.1 Pre-attitude findings

The pre-questionnaire was distributed to all learners during the first and second week. Only 24 out of 30 learners responded. The majority of learners provided positive expressions concerning their attitude toward blog utilisation in their learning environment.

Figure 23 shows the main issues that influenced learners' attitudes before blog implementation.

The main findings of the pre-attitude showed that learners considered eleven issues under two main factors to be most important, i.e. skills and beneficial.

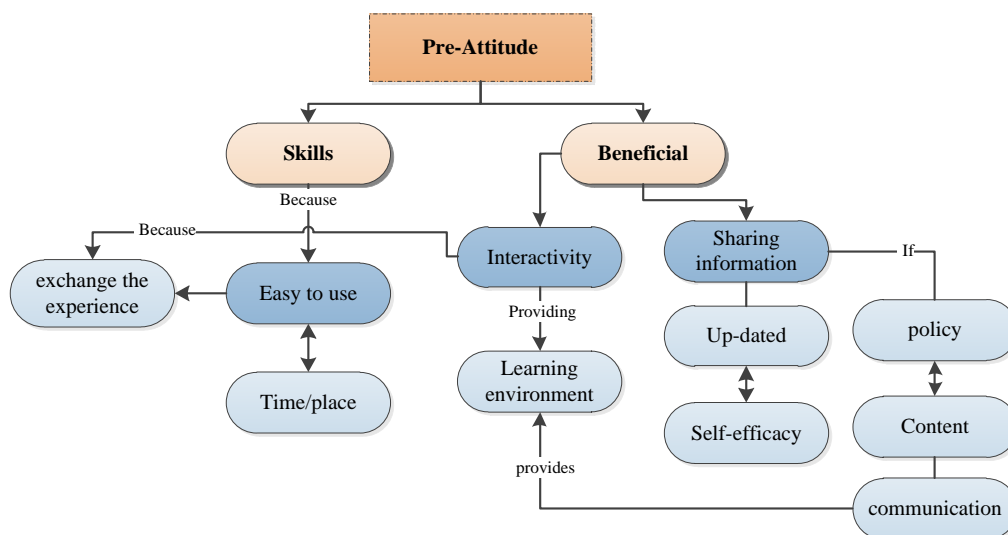


Figure 23: Factors influencing the attitude of the implementation of blog services before implementation

Moreover, learners' attitudes concerning the implementation of a read/write web via blog tools is linked with the *skills* of dealing with such technology. Learners mean by

skills how to deal with blog tools in terms of creating posts, replying, registering, etc.

PR.Q1.S3 said,

“I accept using blog but I need to know how to create a blog and to interact with others.”

Furthermore, ‘easy to use’ was mentioned as a positive response concerning attitude.

PR.Q1.S3 said,

“Yes I accept blogs and I’ll recommend my friend to do this because it is easy to gain some experience.”

Another student, who claimed that ‘easy to use’ is linked to two other conditions, supported the previous statement. These conditions are the utilisation of a read/write web via blogs, expressed as ‘exchanging experience’ and with the ‘features’ expressed as ‘time and place’. PR.Q1.S22 said,

“Will agree for these reasons 1- can post at any time and in any place, 2- exchange the experience and discuss the subject.”

The last response is similar to another vision from a learner, who indicated that ‘time and place’ with ‘exchanging experience’ and ‘interactivity’ are important for the acceptance of this technology, i.e. blog tools. PR.Q1.S16 said,

“Yes; if it allows the learners to be socially interactive by providing the right and cooperative environment where both educator and learner can share thoughts and experiences.”

‘Content’, however, is one issue that is related to ‘sharing information’ between learners, that is, ‘able to build’ a constructive positive for the acceptance of the implementation of blog tools, with PR.Q1.S19 noting,

“Yes, I will use this method, and I will recommend my friend to do so. I will accept it because via this tool it will provide a place, which I can get any information as well the Internet tools in some way, is my main subject.”

‘Communication’, however, was mentioned as a cause that makes students accept another opportunity to utilise a read/write web, i.e. blog services. As PR.Q1.S8 said,

“I will accept that and I recommend using blogs because it is a good way to communicate with your friends.”

Only one respondent shows that the effect of ‘policy’ regarding the attitude due to utilising blog tools. We are forced to use technology, because most of the educational/non-educational institutions encourage using technology facilities, which make it a ‘policy’. Furthermore, this factor is linked with ‘beneficial’. PR.Q1.S8 shaped his idea in this regard when he said,

“Yes, I accept because we are forced to use technology these days, if it is useful then we should use it continuously.”

‘Self-efficacy’ and ‘up-to-date’ information have been mentioned as factors that potentially influence the acceptance to utilise blog services, for instance, PR.Q1.S9 said,

“I will accept this way because it will make me aware of everything new on that application.”

Blog are able to provide a ‘learning environment’ for social interaction. One participant indicates the importance of sharing information between learners and instructors by using blogs to provide the environment for ‘communication’, however, PR.Q1.S16 said,

“Yes, (will accept used blog again); if it allows the learners to socially interact by providing the right and cooperative environment where both educator and learner can share thoughts and experiences.”

As a result, the two main factors that learners considered that could possibly affected their attitude were skills and beneficial. Interactivity between each other and the ease of use were placed second for affecting their attitude.

8.2.1.2 The Pre-Questionnaire - the factors related

These findings are a result of the analysis of the second elements of the pre-questionnaire and focus upon the learners’ perceptions regarding nine concepts, i.e. convenience, content, interactivity, discipline, motivation, transferability, enhancing learning, time and ease of use (see appendix P).

8.2.1.2.1 Convenience

The majority of learners provided positive statements concerning the convenience of using blog tools in their learning environment. Figure 24 shows the issues that relate to their perception of convenience.

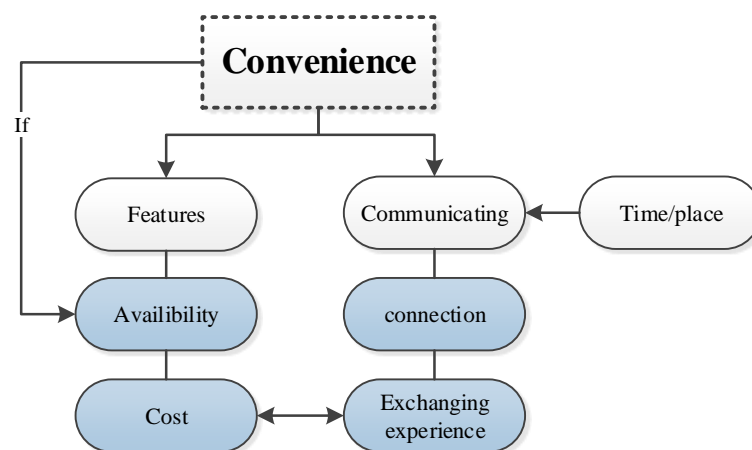


Figure 24: The perception of learners regarding their convenience

Six students did not give any response to these questions and left the answer box empty. Two of them stated simply “agree” or “I do not know” whilst one student simply stated that he knew that blog services are convenient. PR.Q2.S7 said,

“I agree with that; as I know it is like to that.”

The result shows that three main issues may affect convenience of usage.

1. The ‘*features*’ of the blog, i.e. availability, cost and connectivity.
2. The ‘*time*’ consumption and,
3. 3‘*Communication*’.

The link between these three factors will be discussed in next section.

One learner indicated this was the first time he had used a blog and found it convenient because he could access anywhere, i.e. ‘*Place*’. Other learners agreed that blog services are convenient providing there is time to participate, i.e. ‘*time*’ is lacking. PR.Q2.S6 and PR.Q2.S6 said respectively,

“Of course through the first time something took my interest to read and post whenever I can.”

“If there is no time to participate, will be fine.”

‘*Communication*’ with others means utilising a blog within the learning environment is convenient. Where ‘*time*’ is linked with ‘*communication*’ it makes the implementation of blog services practical in terms of communication between students. PR.Q2.S9 said,

“Blogs may make me connected to my friends any time.”

One student linked ‘*exchanging experience*’ with ‘*coasting*’. This statement was made based upon his thoughts about his non-experience with blogs. In other words, he linked his response with the fact that blogs are free and there exists the possibility to exchange experiences. PR.Q2.S11 said,

“Blogs cost nothing and it is important to exchange experiences and points of view.”

The ‘availability’ of the Internet is a condition that makes blog services convenient. PR.Q2.S5 indicated that blog activities and discussion space allow convenient participation, providing the justification that,

“Because it depended on the Internet and the availability these days.”

Most learners responded that the features of blogs, e.g. communication and the ability to contribute content at any time and place are the main factors that influence convenience.

8.2.1.2.2 Content

The majority of the students provided positive comments. Only three students failed give an opinion regarding this concept. Fourteen students tended to consider that blog content provides sufficient information about the module’s syllabus. In contrast, seven students do not agree. Figure 25 shows the issues that influence learners’ opinions.

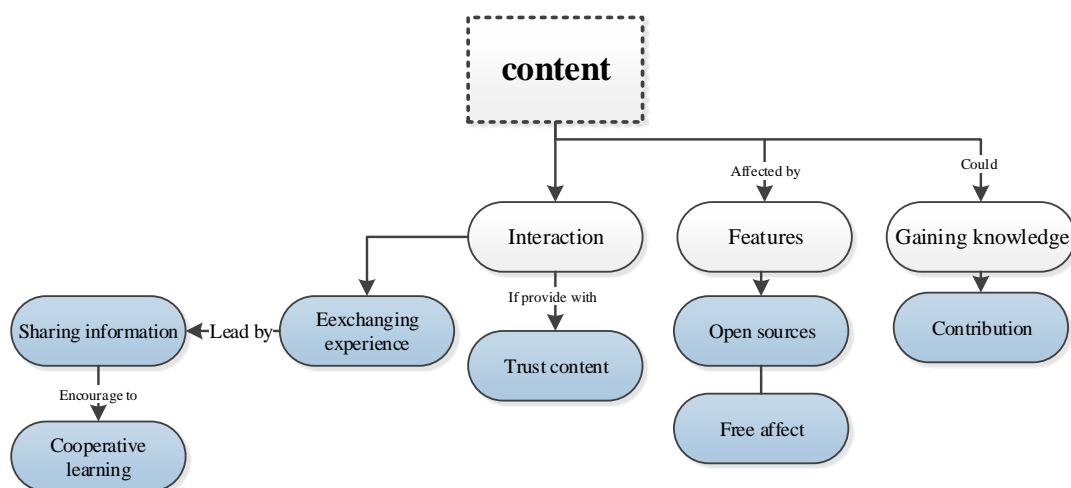


Figure 25: The perception of learners regarding content

In addition, ‘interaction’ and ‘trusted content’ appear to be factors that would affect the implementation of blog services in terms of providing sufficient content. Furthermore, a few learners claimed that activities through blogs could provide

sufficient content with especially high ‘*interaction*’ between participants if they communicated with their instructor. Moreover, they preferred that information came from trusted websites (refer). For instance, PR.Q3.S1 and PR.Q3.S17 said respectively,

“If there is a trusted content and high interaction from the teachers.”

“It depends on how enthusiastic the participants are.”

One student indicated there is the possibility of ‘*gaining knowledge*’ via content. He was interested in factors that would influence the efficiency of the content. PR.Q3.S2 said,

“Content itself is not enough for the materials you are teaching. It is one of the important elements for gaining knowledge.”

Although, blogs provide good information, in the viewpoint of PR.Q3.S15, in terms of the ‘*value*’ of the content he said,

“... it depends on the contributors in the chart.”

In addition, ‘*contributing knowledge*’ was considered a factor related to content. It has been noted that the amount of information the learners face when using blog services would encourage them to engage by adding and posting comments. PR.Q3.S19 said,

“The majority of participants will add lots of information.”

Moreover, the findings show that ‘*sharing information*’ is another factor from which learners may gain benefit in terms of content. The responses show that integrating blogs within the learning environment through reading others’ ideas is a factor that could influence implementation, making space for managing ‘*cooperative learning*’. In this regard, PR.Q3.S16 said,

“Providing a cooperative environment, where everyone can share their ideas also provides a number of facilities that is interactive in the educational environment.”

Responses show that ‘*exchanging experience*’ is a significant factor that has arisen and is considered by learners. Some statements prove that the interactions of participants through blog content is a constructive mechanism for transferring experiences since learners present their knowledge based upon them. For example, PR.Q3.S8, PR.Q3.S16 and PR.Q3.S18 agree with this saying respectively,

“Consists of transferring experiences from one to another.”

“Cooperative environment, where everyone can share their ideas. It also provides a number of facilities and an interactive educational environment.”

“It allows exchanging experiences.”

One response by another student supports the previous statement. He argued that providing content would result in exchanging experiences and building ‘*resources*’ for any subject. PR.Q3.S21 said,

“Exchanging experience and there are many references that will be data based.”

To sum up this concept, the main factors that could influence learners’ perceptions regarding the content of blogs focused on its features, interactions and usefulness.

8.2.1.2.3 Interactivity

For this concept, seven students did not provide any response leaving the answer box empty while the rest of the learners considered different concepts that would facilitate blog activities to provide interactions that would enrich their learning environments (see Figure 26).

In addition, four responses made by learners emphasised that blogs could provide interactions between learners. These statements also state that having different background knowledge is useful in terms of sharing a diversity of ideas and that the

use of blogs gives the opportunity to fairly participate and interact with all sections of the module’s syllabus. PR.Q4.S1, PR.Q4.S14 and PR.Q4.S21 said,

“Gather’s students with different specialties and concepts and the interactivity have its wide space and are open.” (PR.Q4.S1)

“Provides interactions with others.” (PR.Q4.S14)

“Gives a chance for others to be interactive with each other, sharing in comfort, everyone can give his experience.” (PR.Q4.S21)

One learner supports this opinion but utilises a social aspect. He tended to believe that blogging tools have the ability to provide ‘*interaction*’ between learners by delivering an active environment and by providing a fair opportunity ‘*equality*’ for all learners to participate since the limited time in class does not give sufficient opportunity for all learners to express, participate and contribute. Furthermore, this induces ‘*sharing experience*’ between the learners. PR.Q4.S16 said,

“Blogs implements interactive tools, individuals get fair chance to share their ideas and experiences as well as presenting themselves in a social environment effectively.”

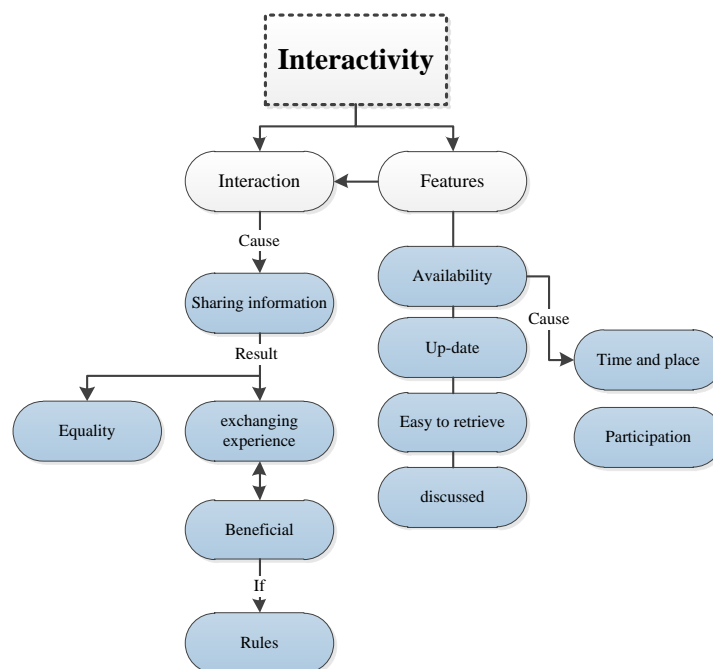


Figure 26: The perception of learners regarding interactivity

Once again, the potential to participate at any time and place is repeated here. One learner agreed that the availability of the blog for learners at any time and place assists in frequent interaction. PR.Q4.S3 said,

“It is available for us as a student anywhere and anytime we need it.”

Furthermore, ‘*exchanging experience*’ and ‘*sharing information*’ seem to be the most commonly cited factors that learners consider; claiming the interaction between learners will increase the transfer of information and the experiences between them. In this regard, PR.Q4.S.11, PR.Q4.S12 and, PR.Q4.S.17 said,

“Everyone said his opinion in a free way that will help in an effective way to exchange experiences.” (PR.Q4.S.11)

“It helps on exchanging experiences and knowledge.” (PR.Q4.S12)

“It gives an opportunity or chance to share their ideas in the modules.” (PR.Q4.S.17)

In conclusion, discussion and argument are mentioned as a ‘*benefit*’ of the integration of blog in learning environments. This is because all the learners are focused on one subject in one place, concentrating their ideas and thoughts in one area of knowledge. With this in mind, PR.Q4.S said,

“Because of the discussions and arguments around the subject, and presenting the ideas and thoughts.”

Certain learners showed that the ‘*feature*’ of blogs provided a number of benefits, e.g. the advantage of the easy way to gather and ‘*retrieve information*’, as well as the ease of managing blog activity, i.e. task order, rules to follow by participants, etc. In this regard, PR.Q4.S13 agreed that blog services could give the opportunity to interact with others to assist their learning but ‘*effective management*’ (rules) should be ensured. This means that teachers should address the policy of use via learning.

Nevertheless, benefits and gaining confidence through sharing experience is valued.

As PR.Q4.S18 said,

“It has many benefits on exchanging experiences on one specific area whether the learners live in the same area or not.”

This section identified the concepts that the learners considered affected their thoughts about blog interactivity.

8.2.1.2.4 Motivation

Twenty-four learners gave a variety of answers to this concept, which is shown in Figure 27. The figure shows the different factors given by the participants. Most learners tended to feel that blogging activities urged learners to become self-motivated and disciplined for a number of different reasons.

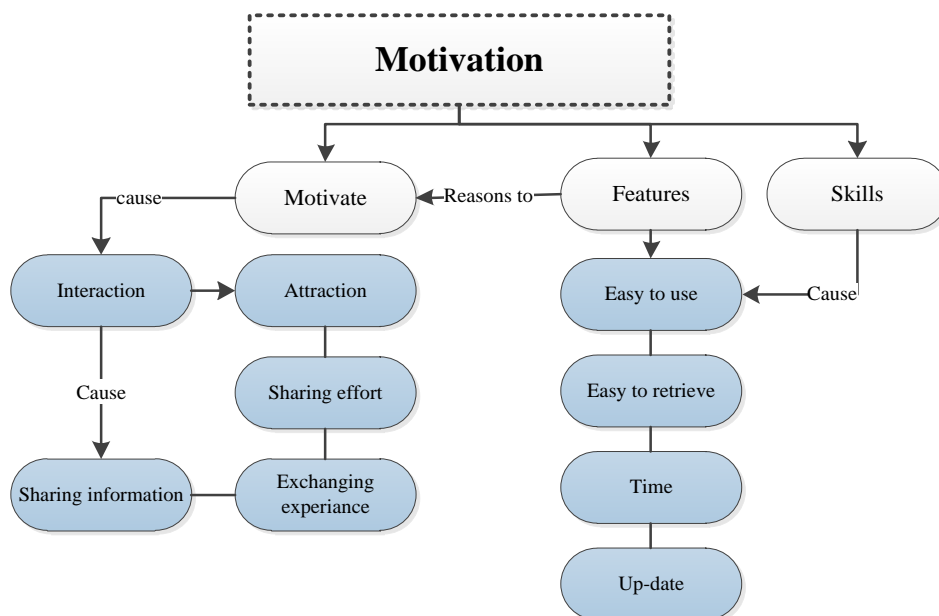


Figure 27: The perception of learners regarding discipline and motivation

PR.Q5.S6 claims that the new application ‘*motivates*’ learners to become more active by a perceived property of its nature by saying,

“Since the blog one of the newest applications it’s normal that it motivate us to use it.”

In support of the above statement, blog services appear to have the ability to provide a cooperative environment by motivating learners to participate. PR.Q5.S16 said,

“Blog gives a strong motive to participate especially for students who feel shy to do so. Also it is an excellent and affective means to allow students to share and cooperate with each other.”

The ‘ease of use’, ‘usefulness’ and various features, such as, updated information of blogs are all good rationales, which encourage learners’ motivation and cause them to become excited so impelling them to participate and share information. In this regard, PR.Q5.S9, PR.Q5.S10, PR.Q5.S15 and PR.Q5.S17 said respectively,

“I feel like it motivates me to read a lot.”

“It may get my interest if it’s updated occasionally.”

“The continuing of searching for simple ways to convey the information easily and it is a positive goal.”

“It contains different types of excitement.”

The learners emphasised the importance of ‘sharing information’ and ‘exchanging experience’ as variables that motivate them. In addition, their opinions concerning this concept show a consideration of the ‘interaction’ between participants within the blog, which would lead to greater opportunities to ‘exchange knowledge’. This was recognised through the statements of PR.Q5.S18, PR.Q5.S22 and, PR.Q5.S23 when they said,

“It gives a fair opportunity to share experiences and read others thoughts.” (PR.Q5.S18)

“There is a chance to interactive with others.” (PR.Q5.S22)

“Interaction between learners via discussing is a good side.” (PR.Q5.S23)

PR.Q5.S14 indicated the importance of the competition between learners though blogs. He mentioned that dialogue, sharing information and posting comments on blogs might raise the level of competition. He said,

“It provides this [motivation] and may raise competition between the participants.”

As a result, most learners agreed that blog are motivational. Different factors have been considered here but the most important are skills, motivation and the features of the blog.

8.2.1.2.5 Transferability

Twenty-four learners responded to this question. The answers focused on seven issues related to the effects of some of the features of a blog (see Figure 28). The majority of the learners agreed that blog activities disseminate information ‘*valuably*’ and ‘*quickly*’ and provide an ‘*easy*’ approach to follow.

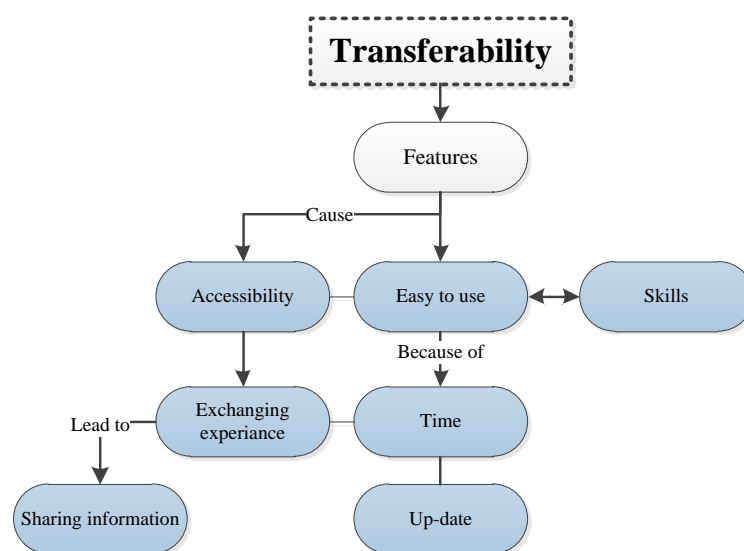


Figure 28: The perception of learners regarding transferability

Learners expressed these opinions because of what they believed blogs could do in terms of the learning environment. For example, they claimed that utilising blogs is ‘*easy*’ and that the ‘*skills*’ to do so have already been acquired. In support of this PR.Q6.S1, PR.Q6.S6 and PR.Q6.S15 said respectively,

“Easy to write, no experience required or registration.”

“You need to write fast and no need for any skills.”

“It does not need to learn the programming language, immediately transforms the context.”

‘Accessibility’ been mentioned as a feature that makes blogs easy to engage within the context of a learning environment. Transferring information was found to be of concern for learners. Similarly, the facility for utilising online services was enough for one learner to consider it an asset. For example, PR.Q6.S3 and PR.Q6.S5 said,

“It is easy to write the information and take it back whenever you need.”
(PR.Q6.S3)

“It is nature and its accessibility.” (PR.Q6.S5)

In addition, ‘*sharing knowledge*’, information and experience was cited by PR.Q5.S12, who said,

“Blog provides multi-thoughts and put that thought freely.”

Another learner who claimed that ‘*sharing experience*’ is possible through blogging supported a previous statement.

“You can get benefit from your colleague’s experiences.” (PR.Q5.S18)

It seems that the features of a blog strong affect the transferability of the information.

8.2.1.2.6 Learning enhancement

Only twelve learners gave their opinions regarding this concept, which was concerned with the benefits of blog activities in terms of enhancing academic learning and achievements (see Figure 29 :). In addition, PR.Q6.S1 and PR.Q6.S5 agreed that the nature of this feature makes it suitable for encouraging and enhancing the overall learning environment. It seems that the ability to repeat information and the nature of

the posts and comments could enhance and support their learning environment. They said respectively,

“Information keeps repeating from different directions.”

“Information keeps repeating from different directions. An explanation for this is when you receive the same idea from different teachers you get in different way.”

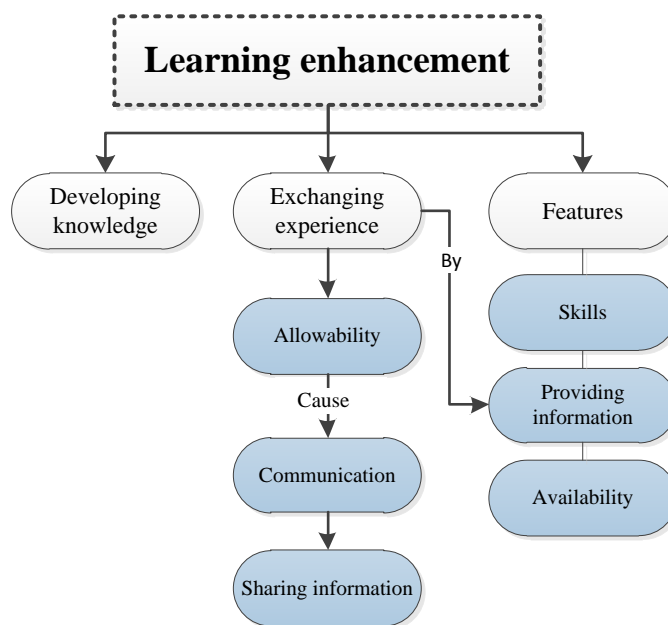


Figure 29 : The perception of learners regarding the enhancing learning

Another learner tended to believe that blogs, as online services, could help a learner to achieve his/her goals. This individual claimed that blogs provide ‘*new information*’ continuously in a fast way owing to its nature. He said,

“For me it could enhance my learning as it is fast and it repeated a way to achieve my goals which I’m looking for.” (PR.Q6.S6)

Furthermore, other learners emphasised the importance of two concepts that could cause learning to become enhanced. The first concept is ‘*allowability*’, which means that the blog could offer participants wider opportunities for communicating expressions and opinions out of class. The second concept is ‘*availability*’, which

means that the blog is available at all times, enabling practice at any time. For example, PR.Q6.S12 and PR.Q6.S17 said respectively,

“Due to its speed of delivering the information and makes it available at all times to achieve goals.”

“It allows and reveals members with freedom to write.”

‘Exchanging experience’ through blogs is valuable, which would most likely positively affect learning and enhance knowledge. Two learners agreed with this. PR.Q6.S6 and PR.Q6.S21 said respectively,

“Reinforcement comes after participating on the blog because you meet people from other backgrounds and exchange your experience with them.”

“There is big range of sources, cross-different experiences and provides cooperative learning.”

PR.Q6.S stated that blogs enhance learning as they assist the acquisition of knowledge. He further stated that blogs help to develop knowledge. He said,

“It helps on developing knowledge.”

“Furthermore, communication through blogs was taken into account, especially communication with instructors.”

“It allowed communicating with the teacher of the subjects.” (PR.Q6.S22)

In conclusion, enhancing learning via blogs was considered to be affected by several factors. As seen in Figure 29, the blog could enhance learners’ environments and this is affected by three main variables, i.e. blog features, exchanging experiences and developing knowledge.

8.2.1.2.7 Interest

In this section, eleven respondents answered. The learners believed that blogs held value for seven different reasons (see Figure 30).

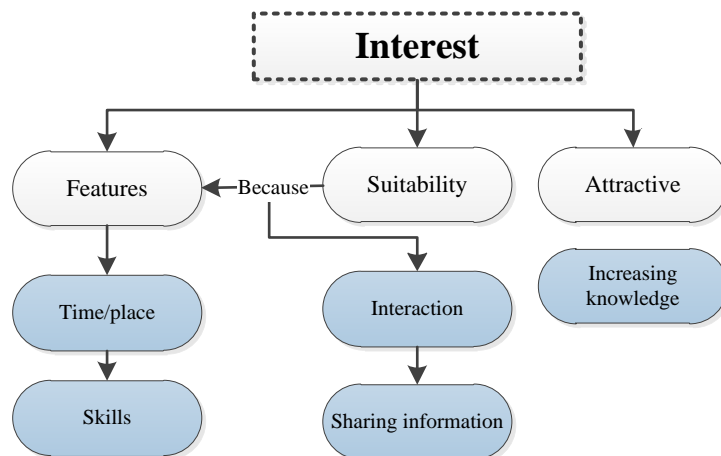


Figure 30: The perception of learners regarding interest

Utilising blogs within the learning environment are interesting and valuable as they are contemporary and an innovative way of encouraging learners to try something new. PR.Q7.S3 indicated that blogs are ‘*attractive*’ as they are a new technology for use in the learning environment. He said,

“It is a new technique and a new technology.”

PR.Q7.S10 agreed that blogging is interesting owing to the nature of the learners, which means learners tend to be attracted to new innovations. He said,

“Blog expansion reached almost every teaching institution beside people leaning to try new things.”

Two more learners believed that blogs are interesting as they are ‘*suitable*’ tools for different types of learning. The ‘*suitability*’ here is also valuable for learners with special needs, i.e. pupils who learn slowly. Moreover, the environment of blogging through interaction, i.e. posting, commenting, sharing, etc., all make utilising blogs suitable for different types of learning. With this in mind, PR.Q7.S12 and PR.Q7.S23 said respectively,

“It suits all types of learner whether they learn quickly or slowly.”

“Because the environment of the blog is suitable for learning.”

Other learners had different viewpoints. These participants tended to agree that blogging is interesting as they are able to increase their knowledge through its activities. Moreover, they are able to increase their instances of ‘*sharing information*’ with each other. Importantly, such activities will improve their skills when dealing with internet services, such as, reading and writing. In this regard, PR.Q7.S and PR.Q7.S said respectively,

“Increasing knowledge and even if it’s out of curiosity.”

“Increased the opportunity of sharing and increased my skills of reading and writing.”

Interaction has been mentioned as a condition that makes blogs interesting. PR.Q7.S11 indicated the importance of interactions between the participants in the blog when he said,

“If there is an interaction among the members in the blog, possibly it could raise their learning.”

Hyperlinks are one feature that blogs provide. This means the writer can link a post in any subject to different resources. PR.Q7.S17 said,

“Blog features can direct you to useful websites.”

Some learners consider that access to a blog at any time and place makes it an appropriate and good way of learning. PR.Q7.S and PR.Q7.S said respectively,

“Because blog are considered as a good way for learning.”

“Blog is interesting because it is allowing participation at any time and place.”

Lastly, in this section, one learner considered that blogs gave more freedom compared to the classroom when engaging in debates over issues since they afford a fair opportunity for learners to exchange ideas and experiences.

“Blog for me is interesting because it has more freedom than a classroom and provides a fair chance to share ideas and experiences.” (PR.Q7.S16)

Even though fewer responses were forthcoming regarding this question, a number of diverse factors came to the fore. Blogs have interest because of three main factors: easy to use, suitability and attractive.

8.2.1.2.8 Time

Only eleven participants gave their opinions concerning time. This suggested a diversity of opinion. In addition, the majority of the learners tended to accept the idea that blog activities save time and that access is easy from any location (see Figure 31).

Five learners agreed that acting through blogs saves time and effort. In addition, they tend to accept that there are no issues concerning locations from where to access the blog. This means that time and place are not obstacles when using blogs within a learning environment. For example, PR.Q8.S3, PR.Q8.S6, PR.Q8.S8, PR.Q8.S10 and PR.Q8.S18 made similar statements, when they said respectively,

“The information could be saved in the blog anytime.”

“It might save time some time.”

“It saves time and effort.”

“Actually it saves time and effort.”

“Especially, if every student has time and a computer.”

Other learners considered that time in terms of helping to organise and manage activities through a blog would lead to increase its value and the number of contributions. One respondent, however, argued that time is neutral, depending on how it is used within the learning environment. Furthermore, organizing activities by

putting rules to manage time would adversely affect opportunities to gain by ‘*exchanging experiences*’ with others. PR.Q8.S15 said,

“Blog activities requires less time with my academic learning due to the beneficial factors that help in organizing activities made contributors and the ability to exchange experiences.”

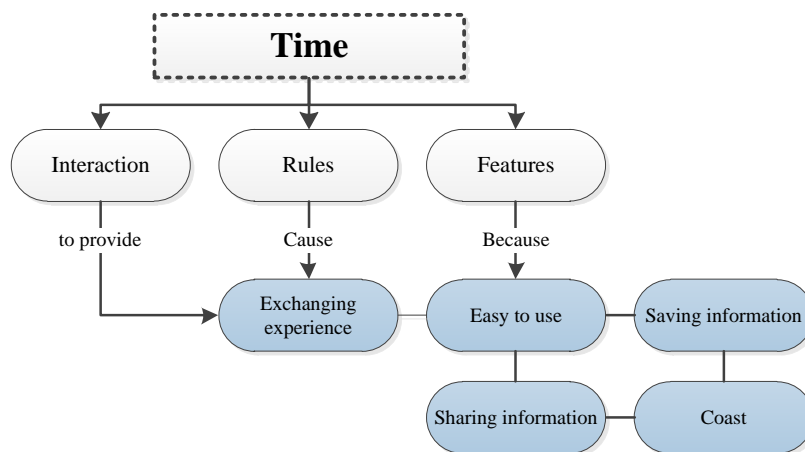


Figure 31: The perception of learners regarding time

Two learners agreed that blogs have their own nature, i.e. easy to use and features of posting comments. They argued, however, that time is not an issue as blogs are an online facility with their own specifications, i.e. ways of posting and making comments, the ability to search and save, etc. They simply said respectively,

“The nature of a blog makes the issue of time consuming irrelevant.”

“Blogs are easy to use.”

The findings showed that interaction is considered a positive consequence of a blog’s features. PRE.Q8.S16 said,

“Blog provides a number of experiences from learning sources due to the learning interactions, which provides time for researching.”

8.2.1.2.9 Ease of use

'Ease of use' that is associated with blogs was agreed by eight learners. They argued that interactions within a blog are easy and are based on a few concepts (see Figure 32).

In addition, blogs were considered as being uncomplicated, easy to register, post and comment. PR.Q9.S17 and PR.Q9.S19 said respectively,

"It is easy to register, share and present."

"It is easy and there is no complexity with it."

From the learners perspective it seems that blogs are easy to use owing to the fact that they provide a cooperative environment that supports interaction and improves communication between themselves and their instructor. PR.Q9.S16 said,

"Blog is easy to use because it is an effective and cooperative environment in which both the educator and learner can participate."

One finding (for the third time in the pre-questionnaire responses) pertains to the 'rules' of managing blogs. This was feature was highlighted as making utilisation easy, i.e. making blog activities structured. PR.Q9.S13 said,

"It might be easy and depends on the way it's managed."

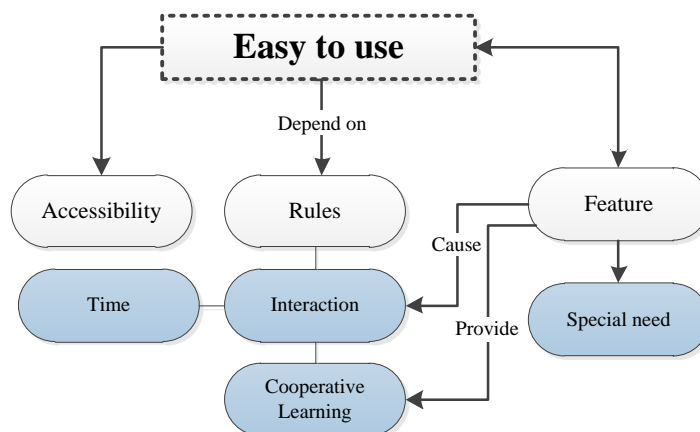


Figure 32: The perception of learners regarding ease of use

Although ease of access to the internet makes learners believe that activities through blogs are easy and there are no obstacles, the link between access to the internet and the ease of using any application on the internet ultimately means that internet access is required. This means that blog services are provided through online access, which relies on the services that exist. This makes learners establish relationships based upon access and blog activities. PR.Q9.S23i indicated this when he said,

“Interaction with blog can be found easy to use because the internet is very fast these days and provides for all.”

‘Time’ is also considered to be valuable feature of blogs. Two learners emphasised that interactions through blogging is possible on numerous occasions, however, one added that interactions with blogs saves time and effort and are suitable for disabled pupils. PR.Q9.S11 said,

“Blog saves time and effort and get things closer to the learners who may have special needs.”

No one indicated that blogs were difficult to use. Only one learner believed that the rules of instruction could be a reason that would make blogs difficult to use.

8.2.1.3 The First Interview

Second part of this section, which concluded the findings of the pre-data collection was gathered during first and the second interviews held in the second and the fifth weeks. Fifteen learners responded. Further details of the data collection plan are found in Table 10. The next sub-sections describe the findings of the first interview based on the research questions that were designed for it (see Appendix P).

The information included in the following section, i.e. the pre-interview findings together with the previous section 8.2.1.2 aim explain learners’ perceptions due to blog tools before their use in the empirical study. One important point is that the pre-

interview was completed after one week during which the learners used blogs as some of their statements indicate.

8.2.1.3.1 Advantage and disadvantage of the blog

During the first-interview, the meeting excited the interviewees. They readily co-operated in sharing their opinions regarding the implementation of blog tools. The researcher extended an open invitation to all learners to attend. Surprisingly the attendance was more than expected, fifteen out of a total of thirty.

8.2.1.3.2 Acceptance with insufficient knowledge

The findings of the first interview showed that the interviewees were not knowledgeable about the read/write web or the use of blog tools in education. Further, most of those who responded to the first question of the first interview showed that they possessed a vast vision of the advantages and disadvantages of online implementations in education in general but none with respect to the read/write web via blogs.

In addition, the majority of learners showed positive opinions about the implementation of blog tools. Learners' responses to the first questions showed that they believed blogs were a good application to use in the module with which they were engaged. Some learners, even from the first week, firmly believed that a blog is beneficial and provided a creative way of '*communication*' between learners and their instructor. Some of learners indicated that a blog is also a worthy method of '*interaction*'. For, example, I1.Q1.S1, I1.Q3.S6 and, I1.Q2.S13 respectively said,

"I have little knowledge about blogs but I knew how to participate and reply after joining the blog. If I discovered some benefits and benefit from that will be fine."

"One good noticeable thing I see well in blogs, which are the communication and the interaction of students with the teacher in the blog being more than in

the lecture. Also there are diverse types of interaction, which is not seen in the classroom.”

“Before using it there was no opinion. After using it for nearly two weeks, I discovered that it is comfortable and very useful.”

It is accepted that the learners had no skills, experience and knowledge of the use of blogs before this study commenced. The next example, however, showed that the learners did not have any idea or knowledge about the implementation of blog tools.

For instance, I1.S1.Q1 said,

“It is my first time to use the blog. I don't think it is disadvantageous, I expect that it is good and useful as it entails discussion and dialogue.”

That statement is compatible with other learners' opinions, who agreed that blogs were useful in terms of gaining knowledge by communication. I1.Q1.S3 said,

“I think it is useful at a certain stage.I mean a stage of communicate when needing information.”

In addition, most of the learners agreed to become involved and participate with the blog. The majority of learners felt that it would be advantageous to use blogs in education.

8.2.1.3.3 Ability for sharing and communicating

Continuing with the analysis of the pre-interview, one learner, with only the first week's experience of blogs demonstrated that his knowledge had improved in terms of his understanding of them. Before engaging with this study, he thought that interactivity through a blog was a one side-interaction, that is, the instructor delivered the activities to the learners (the same as in a classroom). He changed his vision and believed that blogs provide an environment where the learners and the instructor can interact and share thoughts. I1.Q1.S7 said,

“First, I thought of blogs as personal reference websites with no interaction but now it has interaction and development for ideas and thoughts with the teacher.”

I1.Q1.S11 believed that blogs possess the ability to transfer information to the learner and insisted upon the importance of the interaction between participants. He said,

“It makes me refer to some references and source books for the information. The factor of interaction and participation with your colleagues is important, which was not my opinion prior to using it.”

It seems that, there is a strong misconception between the way learners believe interactive technology is used and how it is actually utilized. Some learners believe that blogs share and communicate information one-way only i.e. in one direction from the teacher’s control. In that situation, the learner is restricted to only receiving activities and knowledge. This has been changed by blogs now the learner’s sense of knowledge has developed in terms of utilizing internet tools. Interaction is the key because via blogs there is the opportunity to work together with other learners and the instructor to share information.

8.2.1.3.4 Interaction and in exchanging experience

Continuing with previous section, interaction and exchanging experience was considered the greatest advantage that blogs can provide. Some learners, however, believed it better if blog content focussed only on one subject, e.g.I1.Q1.S12 said,

“I believe that the most advantages of blog is exchanging of the experience for one concerned subject as our module. In the past I knew very little about blogs.”

Associated with the above statement, another learner mentioned the relationship between blog content and interactivity. I1.Q3.S11 said,

“I would say, the important features are the existence of information through the experience of a colleague and you may find in the blog during discussions. In fact, after the creation of the blog, I expect that colleagues have benefited and the explicitness of the information of the specialty and they are up-to-date.”

In support of the previous statements but from a different perspective, the findings found that the benefit gained from blogs could be the ‘*interaction and exchange experience*’. I1.Q4.S2 said,

“It could benefit from exchanging of experiences as well as the interaction and the sources search.”

It was noticed that in some instances learners attempted to answer questions or pass opinions without an adequate knowledge base or prior experience, however, this comes from the desire to improve and gain knowledge in the field through the module. I1.Q3.S12 and I1.Q4.S9 said respectively,

“I do not have a full picture but I may get few good things in my mind, exchanging of experiences and using new websites (features of a blog) and it is also a chance for reading and gaining knowledge from others.”

“Because, I want to benefit from the module in my field for future purposes, it probably would improve my skills and performance.”

All learners’ statements indicated that they believed blogs offered a good opportunity for exchanging experience. For some, this was the greatest advantage that blogs offered but for others it was gaining the knowledge that pertained to the module’s syllabus.

8.2.1.3.5 Features of blogs

The findings showed that learners were able to identify and comment upon numerous blog features. The most common one was ‘*ease of use*’. The result of the analysis of the pre-interview showed that the learners tended to believe that blogs are easy to use, allow communication, interaction and the addition hyper media in posts. I1.Q2.S10 strongly states that ease of use is the main feature that makes blogs distinct from other online services. He said,

“There is nothing that makes it (the blog) different, topics and comments. The only thing distinct in it is that it is easy for anyone in a few minutes to create a blog and becomes ready for activation.”

A consequence of the better communication afforded by a blog is that learners are able to connect with their instructor outside the class, a feature that learners find advantageous and claim it is one reason why blogs have revolutionary features. In addition, I1.Q3.S6 said,

“One good noticeable thing I see well in blogs, which are the easy communication and the interaction of students with the teacher in the blog and the communication, could be more than in the lecture. Also there are diverse types of interaction, which is not possible seen in the classroom.”

The findings showed that blogs provide an environment where no restriction is placed upon time and place, which means the learners are able to connect in any place and at any time. In connection with this I1.Q2.S3 said,

“I would like to add that it is not restricted to place and time as I can add anything or post any comment which I think is the best advantage.”

Associated with the above statement and the belief in ‘easy to use’ blogs have the potential to gather a group of learners who share a common interest, which enriches both interaction and the exchange experiences. With regard to that I1.Q4.S7 said,

“It brings together specialist groups and has limited chances for writing and comments. Also, it is easy to prepare, also, It enriches your information by the content.”

In addition, the learners preferred to be grouped in one blog rather than each one having their own. They argued that they are participants within one group of learners. They have the same background and share a common interest in a particular area of knowledge. The ‘ease of use’ concept was viewed as the main feature of the blog. Second in importance was ‘participation at any time and place’.

8.2.1.3.6 Motivation through blogs

Motivation was considered a positive feature of blog tools. Interactivity through blogs possibly motivates learners to interact and so encourages them to read posts and comments so enhancing the process of sharing ideas and information. Excitation levels are raised and learners become more inclined to engage with the blog. One way this enhancement is expressed is by adding content or posting new posts and sharing ideas. In association with this I1.Q4.S10 and I1.Q3.S9 said respectively,

“One of the styles that help in increasing participation is the style used in writing. Sometimes the participation ends with a question, which motivates the persons who reads the subject to add or comment.”

“Before using blog, I thought that all the blogs have the same template but after that, in just two weeks, I started entering many sites to read their blogs and compare between them for any differences as regards the capabilities in the site itself.”

Most of the participants in this interview showed positive attitudes. They expressed a variety of visions regarding integration, communication, sharing information and ease of use for blogs with their insufficient knowledge of blog tools usage. It seems that most of them used their previous knowledge with regard to the effectiveness of online learning. This can be attributed to their lack of knowledge and awareness of the differences between blog tools and other ones that are used for online learning.

8.2.1.4 Second Interview, Week Five, 1 Learner

After experiencing five weeks using the blog, I2.W5.L raised a few issues in terms of its usage within the learning environment. He claimed that interaction through the blog was the key that attracted him. He argued that the ability to receive quick feedback was sufficient. He said,

L: “What keys attracted you mostly to the blog?”

S: “It is the time as the reply immediately; you are getting a quick comment after posting.”

The above learner commented upon the advantage of utilizing the blog with other learners. The blog produced a place where to communicate and read in order to increase knowledge. In addition, the learner claimed that most of the content posts came from one direction, i.e. the module's syllabus. He said,

"...what has happened with us. All topics were about usage of internet in education. I mean all topics regarding to our fields, which is so nice. Reading and writing at the same time is my concern about our module."

During this period, setting instructions for using the blog were discussed with the class. Some learners supported the idea of framing the usage e.g. to be more specific to determine the subject of the posts. I2.W7.L agreed by arguing that some learners act beyond blog purposes. He said,

S: "Setting rules is good, there should be some general rules as some colleagues unfortunately go beyond its framework, which is the discussion of the matters and subjects relating to study subject. Some of them as well post useless and very short replies, which I would not waste my time to read."

He indicated that, short replies about unrelated subjects were unsolicited. He added further, that learners at this level of education, i.e. in higher education are aware of how to interact with each other through blogs. In connection with appropriate usage, he argued that multimedia is affected unless used in non-adapted posts. With regard to this he said,

L: "Do you think using multimedia with topics would make you interactive more?"

S: "I am not sure but I want to see an attractive topic rather than attracting multimedia, regarding our module, of course."

L: "Do you believe that the picture has an effect on the subject itself or on the reader?"

S: "I don't know exactly but maybe yes, it based on the purposed of the picture."

In others words, learners should not necessarily try to just add multimedia elements, i.e. pictures or video clips, rather they should consider how to present them with the aim to improve the value of the texts, i.e. the post's subject.

In another issue, the actual mode of communication was thought a main reason for some learners to exhibit more effort than observed in class. This factor is very relevant when timelines are considered. Interaction with the instructor is important, especially when the blog is used to communicate feedback. The learners admitted that most of them seek to follow the instructor's posts and comments. In this regard, the student said,

L: "... the interactive of the teacher is not important for you?"

S: "Yes, for me it is important, especially, when I see your comments in my article. I think most students are seeking to see your comments in their posts."

L: "Some student being more interactive and more attending and participative, bear thoughts that they do not present in the classroom? Why do you think this is happened?"

S: "think communication is continuing as there is a time outside the classroom. There is a hall for creativity, thinking, reading and gaining knowledge before sharing the information and do not forget the encouragement when receiving some positive comment. All that could be a reason."

With regard to this, the value of time is indicated as a main reason for creativity. Learners are able to find a wide range of places and spaces via the internet to discover, read, think and link with others to respond and interact through blogs to build a constructivist environment for learning.

As a result, the learner presented a positive attitude with regard to blog usage. In addition, a few issues were raised with regard to the experiences this learner gained during the five-weeks, i.e. the importance of communication, use of multimedia and interactivity. The most significant blog effect the student found was that learners share opinions, i.e. sharing information and experiences.

8.2.1.5 Observation of the first five weeks

This is the third part of this section. The observation data was unstructured and had been gathered since the start of the empirical study. It included all the comments and opinions that had been observed from learners' conversations in class when discussing any of the issues regarding their blog activities. Moreover, this section includes some figures and charts that analyse blog content. In addition, the section includes the findings of some of the learners' comments regarding their blog activities. This section is sub-divided according to the context in which the data is reported, analysed and presented.

8.2.1.5.1 Learners excited

Before starting blog activities, the learners were very enthusiastic and excited (more than expected) when the researcher suggest creating and using blogs within the course. The first frequently asked question from the learners was,

“How are we are going to use the blog with our course?”

The second question was

“Is it easy or do we need to practice first? (Meant technically)”

Only three learners had personal blogs and they used them for social purposes. That means they were aware of the skills and techniques that are needed, i.e. how to register, engage via posting, commenting and editing. Moreover, the findings showed that the learners did not know whether blogs would be a suitable tool for use in education. They showed a lack of knowledge of how to use them for education purposes. The main concern raised at the time was,

“Is a blog appropriate in education?”

It seemed that almost all the learners thought of blogs as a service for social purposes. The learners, therefore, exhibited a positive attitude prior to the study.

8.2.1.5.2 Blog activities - posts and comments issues

Sixty-four posts and more than two hundred and sixty comments were dispatched during the first five weeks of the blog (see Table 14). Furthermore, almost all the posts at the beginning were purely texts but by the fifth week, they started to use multimedia with text, such as, pictures, videos and adding hyperlinks.

	Posts	Comments
Week 1	11	34
Week 2	11	47
Week 3	19	65
Week 4	22	69
Week 5	1	1
T	64	216

Table 14: Number of posts and comments for the first five week of the blog

In addition, every week the instructor discussed any issues that had arisen that pertained to the blogs with the learners. These sessions were aimed ensure that the idea of using blogs in education was clear; to expand their vision toward the social network, to understand the current issues that concerned the learners and to gain a better understanding of their statements. These discussions were able to resolve some matters that related to blog usage and to build some instructions. Some of these matters were as follows.

- Only a few learners (three) did not know the basics skills, such as, how to register, to activate their blog's request, to log into the blog, to post new subjects and to delete or edit their comments etc.
- All learners, in the beginning, only used the blog's facilities to post texts. They did not exploit any other of the blog's features to post media and images or to share links.
- One learner suggested to some of his friend's teachers to use blogs within their learning environment. That came after them asking him for advice or ideas about how

to use internet applications in the learning environment in order to improve communication between the teacher and the learner. He said,

“I found that using a blog as a teacher is a very smart and good idea to communicate intellectually with the learners and does cost nothing. Moreover, it may be there is other way, which I do not know but in blogs I can say: yes we can use it with learners to communicate.”

He mentioned that the teacher should to be there when required by the learner.

Nevertheless, when I asked him,

“Have you told them how to use it? I mean how to communicate with learner if there is any systems plan to follow in the course?”

He said,

“No, but I think the learners will like it”.

His statement, therefore, relates to “his believing” vision. In some contexts, his attitude toward blogging represents a very positive vision with no knowledge base to adapt blogs for use in education.

- By the end of the first cycle, five learners had significantly given more effort; more thought; increased their activities; improved their posts; strengthened the subject; enrich the quality of their comments and became more active with blogs than in class. In addition, one of them was less active than usual when the instructor mentioned to the learners in the class saying,

“I am surprising with some silent learners here, who have smart minds, an amazing variety of thinking and great ability showed in the blog, which cannot be seen in class.”

- Half the learners preferred reading short texts while other half had no preference in this regard. Only one learner strongly objected to reading long texts. In general, the learners preferred original posts instead of copies from difference websites.

-
- Some learners were very satisfied with their experience and enquired if there was any other website that gave free space that could be used for discourses in education.

At the beginning, learners were “mostly” not sure what they could do with the blogs, i.e. which way and the rules or instructions were to be followed when attempting to post. They were aware of what type of content to add, what comments to post, which led the instructor to believe that communication via blogs was very new as they worried despite having prior experience of dealing with the technology in general (see the Computer Perception for learners in skills: see Table 8 in section 7.3.4). It seemed that existing technology skills did not appear helpful when they came to be used within their learning environment.

8.2.1.5.3 Nature of the content

It was observed that the learner’s posts were generally unrelated to the module’s syllabus or subjects, even though all activities through the blog related to them (see section 8.2.2). Concerning this issue, some visions were raised by some of the learners. They explained that any content about gaining knowledge is not a matter of what type of knowledge one posts compared to what one is learning and, therefore actively gaining knowledge. Any content, however, should be accepted, as knowledge does not exist within boundaries.

In the beginning, the majority of posted content was copied from websites. Nevertheless, they started to establish their own articles once these initial ones had been posted. On another related concept, all learners agreed that ‘*sharing*’ information was one of the most important advantages of blogs together with their ‘*ease of use*’. This shows that they learnt from their sharing experience. The evidence to support of this was when learners began to write their own articles after one of them started his

own. Learners, therefore, learn from each other. Table 15 shows the analysis of the nature of the comments made by learners during the first five weeks.

Indicator	Example	No.
Discuss same post subjects	- <i>"I would like to add to your list that we can say"</i> 10/10/2010. - <i>"great ideas but I can say that using mobile phone..."</i> 26/10/2010 - <i>"thank you for adding few links... content in the links seem to me ..."</i> 24/10/2010	31
Complimenting, expressing appreciation	- <i>"thank you or your effort, good luck"</i> 28/10/2010 - <i>"thank you for this information, we hope to gain benefit"</i> 18/10/2010 - <i>"I would like to thank all of you for your rich information"</i> 30/10/2010 - <i>" thank you for your transferred this information..."</i> 27/10/2010 - <i>"... I cannot say expect great posts..."</i> 26/10/2010	45
Asking questions	- <i>"how we can find this information?"</i> 22/10/2010 - <i>"what is the best solution?"</i> 30/10/2010	35
Short comment	- <i>" Great posts, I agree"</i> 1/1/2011 - <i>"all of us need to know how the program is working as its out filed"</i> 29/10/2010 - <i>great posts, waiting for more"</i> 4/1/2011	27
Present new information	- <i>" what I understand is that the resources in school is based on many variables which includes..."</i> 15/10/2011 - <i>" the educators are not any more interested in the books at library as a sources..."</i> 17/10/2010 - <i>".. I would like to add, that methods cannot use in..."</i> 3/10/2010	18
Add new ideas	- <i>"...The blog includes two words. Web and log"</i> 1/1/2011 - <i>".. There are few problems to understanding these ...; we can address it in this way when we can..."</i>	20
Sharing experience	- <i>".. Thank you for your comment but based on my experience with the "leading school" project, I relies on."</i> 10/10/2010 - <i>" regarding my experience in this field, I believes that..."</i> 10/10/2010 - <i>"I used to deal with a company, I found them quite"</i> 15/10/2010	22
Quoting other posts, e.g. repeat the same content	<i>"... Your post is good, because it is related -as you indicated- to the large community that can...."</i> 22/10/2010 <i>" as you said, we have to look at these theories and how much we can adapt it"</i> 14/10/2010	18

Table 15: The nature of comments during the first five weeks

During the first five weeks, some learners expressed dissatisfaction with most of the posts that had originated from other websites. There were several reasons for this.

- The learners were more excited when they read posts created by themselves rather than those that emanated from other websites.
- Some learners believed that the content of posts contained in blogs from other websites may underestimate the value of the learners' own posts, e.g. the content created by learners, should give a good impression to readers of

the entire blog, as they have the same level of creativity. Another learner argued that there must be a way to divide self-effort from copied material from other websites. This means, each one has its value to consider.

- During the observation, one learner said,
“I am looking to read my colleagues experience or thoughts rather than reading how much skill he has got to convert other content (copy and paste from other websites.)”
He added more by saying,
“Some could be useful but the majority of diverted posts do not reflect any new information regarding our modules.”
- This reaction was observed with other learners who claimed that their expectation is to share their own thoughts and experiences rather than convert content and incorporate it into their blogs.
- Some learners indicated that they are (just) not interested in any posts copied from other websites but they were unable to provide reasons to justify this attitude.

8.2.1.5.4 Reflections regarding instructor activities

Two examples were noticed that show one interesting point. It is with regard to one of the instructor’s posts. The post’s content was contained within a general idea but related to the module’s syllabus. More specifically, the subject of the post concerned the use of technology in education, which is related to the module’s subjects (see section 7.3.2 in chapter 7, the description of the modules). This post attracted a large volume of comments compared to other ones at the same time. Moreover, the twelve comments that were relevant to this post place it second for receiving comments. Four of these twelve comments, however, were a direct “thank you” and added little information regarding the post’s subject.

Notwithstanding that, some of these comments showed a positive attitude toward utilizing blogs to communicate with each other in this module, especially between the instructor and his learners, e.g. one learner said regarding utilizing the blog in this post,

“...to communicate in the blog with everyone is the easiest and most enjoyable way...”

His colleague agreed and said,

“...we do not used to communicate with the instructors out of the class like this, as same time we are here receiving the teacher’s thoughts and opinions regarding our ideas out the class which make it more comfortable.”

It seems that, this amount of replies with their statements showed that the learners are concerned about their instructor’s interactions and contributions.

A second example comes with the post entitled “*What is the best solution?*” from the second week. Learners were asked for some suggestions regarding problems about a writer’s friend who was experiencing a few technical problems regarding the management of the resources of the computer laptops at his school. This post received eight replies. It is important to mention that the instructor pointed to another post that presented solutions to a similar situation. The instructor said,

“...you can get back to the previous post, you will find answers.”

The reaction from the writer to the instructor’s comment was interesting. It showed that learners are more cautious if they know that the instructor is close to seeing their work. He replied saying,

“...I am really thanking the teacher for this comment. He indicated to read that post. That is very clear that he is reading everything thus makes me been more careful when posting any thoughts in future....”

Additionally, it seems that the researcher discovered a comment relevant to the extent that the instructor may affect the learner’s behaviour and reactions during activities with blogs. The comment was posted by instructor. He wished to draw to the learner’s attention the importance of revising content in the future. The comment implied by how much the learner would need to try to improve and develop his skills.

8.2.2 CONCLUSION OF PRE-DATA COLLECTION

This section discussed the findings of the first action research. It presented the findings of the pre-questionnaire, the first and second-interviews, observations and an analysis of blog content. Moreover, it showed that not all learners had previous knowledge of how to utilize or use a read/write web (web 2.0) blog's services within their educational environment. In addition, they had very little idea whether blogs were suitable for use in education but nevertheless they mostly believed so. Therefore, the reflections they showed at the beginning of the research reflected their expectations rather than what they are knew. That is compatible with what was observed during class time and with their comment and posting activities.

In addition, the features of blogs that reflected learners' thoughts encouraged participants to embrace a positive attitude and a bright vision regarding blog tools. Nevertheless, better communication can be achieved between participants, specifically in this research, between learners and instructors in order to share and exchange information and experiences so gaining new knowledge. Furthermore, most learners believed that blogs are valuable for sharing knowledge and interactivity between participants.

The views of learners about using blog tools comes from the data collected via the pre-questionnaire, the pre-interview and the observations together with an analysis of blog content. It appears that the learners believed that this internet application proved very constructive and beneficial for their learning environment, especially as it is a new concept. Moreover, learners showed that they are able to accept the idea of dealing with blogs even before they are implemented. The findings of the pre-questionnaire showed that the learners were concerned by the large number of variables that could affect their acceptance and influence their attitude toward blog

usage. In spite of their lack of knowledge about blog usage in education, they voiced optimism about factors they should consider.

Finally, it seems that learners enjoyed participating in this inquiry, Any teacher (myself included) has a responsibility to give direction to learners so that have a clear plan of how to use blogs by providing what they need start their first steps in using these internet applications. It seems, however, that learners have powerful minds and skills that are difficult to discover in the classroom. Technology gives the opportunity, a wide space, flexible time to encourage and developed their minds and abilities by practice with knowledge. Culturally, the research gave the impression that learners who come from different regions have similar attitudes toward blogs but this factor belongs to different research.

8.3 SECOND ACTION RESEARCH CYCLE

8.3.1 INTRODUCTION

The previous section included three main parts that outlined and discussed the first action research cycle, which was conducted during the first five weeks of the empirical study (i.e. the pre-questionnaire, first and second-interview and the observations). The aim of the first action research cycle was set to gain a better understanding of learners' perceptions, concerns, opinions and attitudes toward blog usage throughout the course during which learners considered a large number of issues (see section 8.2.1 and 8.2.1.5).

This section discusses the plan for the second action research cycle and presents the findings of the interview, the observations and conclusions, which were conducted during this phase of the research. This section will also include, sequentially, all the activities for this period, besides presenting the results and findings of the cycle.

Based on the results of the first, a second action research cycle was planned. The following section describes its elements and findings regarding the issues raised by the learners during this period.

8.3.2 THE PLAN FOR SECOND ACTION CYCLE

Certain modifications as a result of the findings from the first action cycle were introduced before starting the second one (see section 8.2). Notably, the instructor changed a number of the actions with learners' activities via the blog as follows:

1. Encouraging and motivating the learners will increase, as it had been noticed that learners tended to be more active when the instructor became involved with their activities or when he was part of their blog activity. Learners were concerned about interaction via the instructor as an "encouragement." The instructor, therefore, considered those during the second cycle.
2. Discussions that involve learners' blog activities and thoughts will take place during class, which will intimate to the learners that the instructor will engage with
 - a. What they write and,
 - b. What they discuss

Due to the first cycle, the learners have now become aware of what the instructor is saying and doing with regard to their activities via blogs.

3. The instructor will be more active via blogs, more responsive to learners' posts and comments. He will engage more with learners' blogs by discussing some of their posts in the classroom. The instructor's plan, therefore, was to direct the learners by sharing thoughts and experiences.

8.3.2.1 Central Data Collection

It was planned throughout these cycles to continue observing learners' activities via blogs while conducting several interviews. This section includes the findings of the data that was collected from the sixth week to eleventh week (for more information see section chapter 6, section 7.3.5). This will include the central-data collection, i.e. cycle two. This cycle will contain and covers the findings of the third (3 learners),

fourth (3 learners), fifth (1 learner) interviews and the observation to reveal learners' behaviours, opinions and activities through their blogs and blog content analysis.

The observation include learners' perceptions that pertained to their experiences of utilizing blog tools. In addition, the findings of some short questions that been given to the learners during that time. One of the aims of the data collection procedure during this cycle was to gain sufficient detail in order to learn and understand the perceptions of the learners with respect to the implementation of blog tools. There was a need gain in-depth understandings to determine the potential of blogs in terms of their usage by learners and deeply probe their feelings. A second aim was to estimate and measure learners' responses, actions, attitudes and perceptions with regard to their instructor's activities Overall, the aim was to gain a measure of their perceptions regarding the actions that had been changed in preparation for the second research period (see section 8.3.2).

8.3.2.2 Central - Interviews

This section describes the finding of the interviews conducted during the seventh week with three learners, the ninth week with three learners and the eleventh week with one learner. The purpose of the interviews was to discuss the different visions of some learners at the mid-point of the study. This was done to gain a better understanding of the nature of their interactions, what is their visualization regarding their communication and practice through blogs as well as seeking their opinions and attitudes. For instance, collecting different items during this time helps to gain different visions for different perspectives for different concepts that have changed over the course of the study to date. The following section describes separately the findings for each interview in order to gather participants' interpretations regarding their behaviour and interactions during the study (Cohen et al. 2011; Arksey and

Knight 1999). Essentially, the interviews were unstructured; the learners gave their statements freely regarding issues related their engagements with the blog

8.3.2.2.1 The Third Interview, Week Seven, 3 Learners

The main point raised by the learners was the importance of adding blog rules. This necessitated the establishment of rules or structures to follow when creating posts and generating comments in the blog, e.g. to prevent long posts and ensure that the contents of a post relate to the module's subjects), (see related concept in section 8.2.1.2.3 and 8.2.1.5.2). Thus, the researcher began the interview by asking about the importance of the rules and structures. The learners claimed that by adding rules, the blog will be better structured and its contents will be more focused. I3.W7.S3 claimed that, a blog has usefulness,

"If managed well."

He meant that blog activity would be more beneficial if it had a clear structure or rules, for example, rules that created a general framework. He added content in some blog is poor, especially that which is unrelated to the syllabus or the module's subjects so some rules would help and direct content so that it is connected to the module's syllabus. I3.W7.S3 said,

"I think blogs as services are useful when managed well. It means there is a rule and some structure to follow to make all ideas and the sharing of the information go toward one direction. This could make the usage very beneficial."

Similar to previous issues but with a different vision, another learner indicated the importance of providing a space where learners are able to reflect their personality by discussion via blogs. This learner added that rules were not relevant to him. I2.W7.S1 said,

L: "Do you think leaving a blog under some rules is better or making it open without rules?"

S1: "Whenever there is wider room, creativity emerges."

Utilizing blogs with some structure is required but not to the extent that a learner's creativity would be curbed. Rules and structures, therefore, should not restrict learners from sharing their critical thoughts or creativity. With regard that statement I3.W7.S1 and I3.W7.S2 said respectively,

L2: "Is creating a blog with some rules is better? Does it need to set rules to indicate the way of dealing with it?"

S1: "Yes, mostly yes, but not as long as curbing student to be creative."

S2: "Skills of using the blog are developing for some students and some of them are not interested and that could be because the interactive is no mark."

The previous statement indicated a new issue. A learner's participant interest could be affected, as there are no course marks are available for their efforts. In addition, other findings from this interview revealed a few issues that learners consider would affect blog usage. The factors mentioned most were 'interactivity' and 'exchanging experience.'

Another issue that was identified was 'interaction' with the instructor, which motivates learners. I3.W7.S1 indicated the importance of instructor interactions as follows.

T: "Do you think it is important for a teacher to be close to the blog (post and reply for learners writing). I mean the process of interaction between the person who is responsible for the module and the learners. Is this interacting with them essential?"

S1: "I would say that the one person who is responsible has his imprint (affected) as the writer of the topic expects a feedback or a reply from the teacher or supervisor."

In addition, the research shows that interactivity is the more significant than instructor motivation. Furthermore, motivation could result from interactivity between learners and their instructor through the blog. I3.W7.S1 and I3.W7.S3 said,

L: “Do some learners expect to be motivated by the instructor via blog to participate effectively?”

S3: “Motivation should be anywhere whatsoever the age is.”

L: “How is the importance of the interaction between the instructor and student compare to motivation?”

S3: “Interaction is very important.”

S1: “Yes, I agree.”

A different style of blog content could affect or direct the actions of a learner. Furthermore, the vision was raised by I3.W7.S2 that different styles of content could most probably motivate participants thus raising their level of interactivity. He said,

L: “What do you think if there is no interaction there, shall be no caring by the learners?”

S1: “You would feel that there is no caring if the interaction is few.”

S2: “I expect the topic should be enriched and make anyone interact. The topic formulation and posing are the greater motivations for interaction.”

Another finding showed the reason for decreased activity by some learners, particularly during this period. This is because at the beginning of the semester they had a large amount of free time. They did not start their course work and revision but rather delayed it. It is a matter of time. I3.W7.S1 and I3.W7.S2 said,

L: "At the beginning, I noticed that there was interest among the students, then they got calm. I mean, they became less interactive and what do you think the reasons are"?

S2: "At the beginning we were not busy, so it is a matter of time".

S3: "Students access to read but not for like to answer or for replying, sometimes, some posts was so useless."

L: "Why, due of what"?

S1: "I believe that exchanging experiences is the best thing to get from blogs as it brings many minds together. The annoying thing is that some students just transfer some articles from different websites and that made us feel at the beginning the blog does not need effort for writing posts."

In this interview, in addition to the above statements, ‘*exchanging experience*’ makes blogs different from other online services. Nevertheless, I3.W7.S1 and I3.W7.S2 indicated that blogs are efficient online services where learners are able to share and exchange information and experiences thus providing effective interactions. Nevertheless, the consensus of the learners was that a single factor would be sufficient to set a rule for participating in online learning via blogs. The learner’s emphasis on the importance of exchanging experiences while taking into account the significance of their feelings could to be related to this factor. I3.W7.S1, I3.W7.S2 and I3.W7.S3 indicated some of these issues as follows,

S2: "The problems of some of student that they have no Gmail, which make to participate, get few errors."

L: "What makes the blog different from other applications?"

S1: "This is a very big question, we cannot say that the blog is best for educational purposes but it is a good idea for exchanging experience as my friends said."

S2: "I think the easy way of dealing with a blog is a good side as well."

L: "What is your opinion makes the blog different?"

S3: "Exchange of the experiences and information, especially for the specialist being at one place (means all participants have one background)".

The participant was asked whether he intended to continue to communicate through blogs after the course ended. He said,

L: “Do you think by the end of this semester, you will be communicating via the blog?”

S2: “Probably yes, there is one important point; our group are being from different places, which make blog have enriched information.”

L: “Does that reflect on the blog?”

S2: “Yes, gaining a different opinion from different backgrounds.”

In summary, the results indicate that interactivity with the instructor is the most important factor that would affect their engagements when using blogs. Participants were mainly concerned with the importance of exchanging experiences and sharing their information for two reasons. First, all the participants come from same background, which enriches the discussion and second, to improve their skills by reading and writing in the field. It seemed that learners were directed to the positive side of blogs because the application was well managed, as mentioned above. The learners preferred to create just a ‘few’ rules or structures to increase the performance of the blog.

8.3.2.2.2 The Fourth Interview, Week Nine, 3 Learners

This interview involved three learners. It was conducted during the ninth week of the inquiry. The researcher started out by asking these learners to recount their experiences of any novel or different issues that had arisen, e.g. the advantage they found using the blog. The data collected during the interview showed that many issues needed to be considered in order to gain an in-depth understanding of the blog and to identify the relationship between different learner’s visions.

I4.W9.S1 believed that communication and sharing information were the most advantageous features of the blog. Moreover, he claimed that there were many advantages in using a blog, such as, reading numerous topics from different areas.

I4.W9.S2 shared the above opinion. He considered communication a main feature of a blog. He found that blogs could provide an alternative way of communication outside the classroom with the instructor. Both these learners said,

L: "Based on the previous experience with blogs: What are its important advantages?"

S1: "As I said, communication and finding multiple topics for different subjects."

S2: "Communication between students and the lecturer for me is the most advantage."

L: "Why?"

S2: "I think because we got in the blog from you what we are not able to receive in class. Cause of the limitation of the time in the class during our discussing."

With regard to the concept of 'valuable content', I4.W9.S1 claimed that enriched content could be created notwithstanding the constraints associated with the availability of time. The learner indicated that the most important advantage associated with a blog is its potential to enrich information. He said,

"Enrichment of information and exchanging experience to me is most important in my view when engaging with a blog."

The instructor's interaction with learners via blogs was found important to the interviewees. Moreover, they considered that instructors could bring enriched or valuable content and exciting topics regarding their syllabus. I4.W9.S2 and I4.W9.S3 said,

L: "Is it important that the instructor should to be present and interactive?"

S2: "As supporting, yes."

S3: "Your point of view is correct because of your viewing posts as a lecturer, there are topics which are clear and easy to understanding and do need comment or exchange of experiences, you always brings enriching topics."

The learners considered the importance and significance of the support that is provided by the instructor via the blog. They envisioned support to mean that the instructor should be interactive with them, e.g. replying, posting and passing comment on their activities. Furthermore, there is evidence to show that interactivity reflected the instructors' appreciation of their learners' efforts in terms of their posts and comments. I4.W9.S3 and I4.W9.S2 said respectively,

L: "Is the instructors' support through blogs to students is significant?"

S3: "Yes, the instructor should support the learners in order that they will become more active but among the learners to discuss any opinion in the same topic."

L: "What type of support do you expect?"

S3: "Replies to our topics and posts, interactive with us during discussing any subjects etc."

S2: "You are here with us and you know what we are doing and posting as in my opinion it is showing that you are respecting what we have done."

'Exchanging experience' has been mentioned as it allows the sharing of ideas, information and knowledge between learners when contributing toward activity, information and knowledge via blogs. Nevertheless, it is an advantage when the participants have same background knowledge, thus making the exchange of experiences more beneficial. I4.W9.S2 and I4.W9.S2 said respectively,

S2: "Exchanged experiences are beneficial as everyone writes his opinion as it becomes based on his experience or knowledge."

S3: "Since we are about the same topic of study, our activities in blogs has to have a big pool where all topics pour in which we look forward to through join one specialization."

The findings showed the existence of a common theme, namely, exchanging experience between learners via a blog is important but its significance came from different visions. Furthermore, learners prefer to participate by sharing one blog (as a group) rather than each individual having their own. The findings showed that a group

of learners that shared one blog could provide an environment for cooperative learning. Here, learners can discuss one subject as a team or as a (group) through their posts. Learners will be able to participate whenever they can. Those that do not participate will go unnoticed and are unable to affect the blog. Participating in one blog probably will save the time. With regard to this I4.W9.S1 and I4.W9.S2 said,

L: "Do you think that it is better for a group to join one blog or each individual has a separate one in the subject?"

S1: "Yes, the group is much better."

S2: "Yes, I would prefer to participant with a group rather than to establish my own blog."

L: "Why?"

S2: "Just imagine if I am going to create for each subject [module) a blog and start to interact with others. That will be waste of time as I have so many priorities."

S1: "Yes I agree. I would like to add that participation is a great idea, especially when there is no time to complete your ideas in the class, as well creativities needs time to show and that is possible in the blog."

Another viewpoint was expressed that by participating in blogs, the ways of interacting and the meaningfulness of the discussions would improve and open learners' thoughts to different ideas and topics. The learners claimed that this meant discussion would move them from one subject to another, sharing ideas and exchanging experiences via interactivity through the blog. This would improve and open up their '*critical thinking*'. This was the first time that the learners considered critical thinking in terms of developing skills. I4.W9.S3 said,

"We applied with the colleagues in the field; we placed the scientific subject in the blog in video clips and pictures (multimedia) and that is considered as an exchange of experiences which succeeded as through the opinions of students whom we applied with."

Moreover, a blog gives learners freedom and time, for example, to discuss topics with oneself before writing. This it is different from the lecture and contrary to classroom

practice. In writing learners will think about the information before writing and then analyse what has been written by comparing it with different information. All of that would improve learners' thinking regarding any posts or subjects.

Overall, the most point considered by learners in this interview was that communication through blogs improved the interaction between the learners and their instructor. Furthermore, this interactivity assisted the learning environment by improving the learners' critical thinking. The three learners preferred participate as a group in one blog instead of one blog for each learner.

8.3.2.2.3 The Fifth Interview, Week Nine, 1 Learner

The activity of this learner began to decline significantly. That was the reason why this interview was conducted with him. The interview aimed to understand the cause of this decline. In addition, it gave the opportunity for the researcher to try to understand how different thoughts become associated with different situations, which could help to explain this learner's sudden change in behaviour from being active to becoming negative with his colleagues through the blog.

His justification was related to his perceived priority throughout the semester, i.e. compulsory tasks. He claimed, at the beginning, he had enough time that to participate. Then during the semester, different module tasks made his priority change. I5.W11.L1 said,

L1: "I noticed that you have become less excited than when you started, with less participation, why?"

S: "Just being busy with studying. I have a subject, which will post today. Have more tasks to do as well for other subject."

L: "You mean that you are sparing your effort for something else?"

S1: "To some extent, yes."

L: "Is there in reason relating to the usage?"

S1: "No but time is not allowing me to participate, recently."

Despite being less active, the findings showed that he possessed a very positive attitude toward the blog. Moreover, he thought that using the blog for modules was useful because it provided knowledge and facilitated the sharing of information. He said,

L: "What are the things you see that can make the usage more effective?"

S: "If I want to read a topic I will be looking for two things: criticism whether negative or positive and any new ideas would add knowledge.....you can present a new opinion or there be a place for exchange of information as well...."

He claimed that responding and interactivity came through the instructor and that motivated the learners 'very' positively. He said regarding the impact of instructor interactivity,

S: "In the middle you used to praise and motivate the students about what they wrote in the blog, which made them feel that you are following up. All were excited for that."

In a separate issue, he refused to use a structured blog with added rules e.g. each learner would have to post not less than four posts per week with five comments. He preferred, however, to link the blog activities with grade 'marks'. With regard to that he said,

S: "I think the making, it is open is better but if there are marks, specifying is better."

L: "Well, which is better to be with grades or without?"

S: "Linking it to marks will make more official."

L: "What do you mean by official?"

S: "I meant that each one will be (more) caring to post and comment regularly due the marks affecting."

This learner, therefore, believed that awarding grade ‘marks’ for the learner activities is important. He pointed out that it is normal practice and that the learners expected it to be used. He preferred to include general ‘guidance’ rather than rules on how to use the blog to regulate learners’ behaviour in order to avoid undesirable acts e.g. posting a long subject and add short comments, such as, thankfulness. I5.W11.L1 said,

L: “In our conversation earlier today, you said to leave some marks could make the blog more interesting for you, why?”

S: “I think learners want to gain marks as it is natural and normal. The ideas here that the blog is new for us and I think it would make us become more excited as we meet in the line of gaining knowledge benefits and module marks.”

To conclude, the learner exhibited a very positive attitude toward the use of blog tools with the modules despite a decrease in his blog interactions. His behaviour, however, changed due to priorities brought about by the pressure applied by the semesters’ tasks for which coursework marks were awarded. In contrast, blog participation did not attract any marks. In addition, he claimed that “theoretically” participation in the blog was a very interesting idea. Additionally, the findings showed that pragmatically blogs would be more interesting if two features were to be included. First, if there were a marks or ‘grades’ for blog participation and second, if there were general rules or structures in terms of determining some acts e.g. restricting undesirable acts, such as, posting a long text.

8.3.2.3 Observation from the 6th to the 11th week

The previous section presented the findings of the interviews that been conduct during the above period. The overall research plan was to conduct three interviews for data collation purposes (see chapter 6, sections 7.3.5 and 7.3.5.1). This section presents the data that was collected by observation from the sixth to eleventh week. This presentation includes most of the learners’ interactions, a description of their posts,

comments and opinions. Moreover, some of this information had been collected via learner conversations during blog interactions. Furthermore, it includes some figures and chart analysis of blog content, i.e. the nature of the comments and the posts. Further, it includes the findings of the comments that were received from some learners regarding their opinions about blog engagement.

8.3.2.3.1 Learners excited

Forty-two posts revealed and demonstrated the mixed excitement of the learners about their initial participation in the blog. At the beginning of the empirical study their explanations (interpretative) had to a large been previously shaped. In other words, the learners were giving a clear opinion about some issues regarding their experiences contrary to their perceptions and behaviour during the observations in the first five weeks see (section 8.2.1.5.1). Their perceptions by the sixth week were more realistic and showed that it was based upon reflections of their blog activities. Excitation increased for the majority and decreased for just a few of the learners. One can claim is that their experiences affected their blog interactions, for example, in the fifth week of first cycle during a conversation about issues connected to blog activities, a few learners suggested adding a few marks or grades for sharing and participation in the blog. One of them said,

“It will be better for us and for the blog to add few marks.”

This learner preferred to associate the modules with some marks earned for their blog activities. They felt that completing blog activities were significant and valuable for the engagement.

Surprisingly, however, the majority of learners opposed it. They insisted that engagements with blogs should not attract marks but they believed that participation with a blog was exciting and it should be encouraged in order to increase information

sharing. They, however, would prefer participation to be voluntary. Furthermore, they claimed that a radical evaluation of their activities would affect the way they shared information via the blog, e.g. they would have to put more effort into writing and posting, better preparation before sharing and being more focused when commenting. Thus, adding extra tasks without marks being awarded, in principle, was not acceptable during the middle of the course.

Interactions with blog content appeared greater when it engaged the instructor, e.g. there were twelve comments to one of the instructor's posts that place it second for receiving comments. It should, however, be mentioned that four comments were a direct 'thank you'. These comments added little information to the post's contents while the remaining eight were a written contribution.

Some comments demonstrated a positive attitude for using blogs to communicate with each other, especially between the instructor and the learners. The evidence shows one learner who thought using blog in one post

"...to communicate with everyone in the easiest and most enjoyable ways..."

This comment could have arose because blogs are a novel way by which to communicate, or as other learner said,

"...we do not used to communicate with the instructors out of the class like this, as at the same time we are here receiving the teacher's thoughts and opinions regarding our ideas out the class, which makes it more comfortable."

Thus, positive attitudes toward communication with the instructor exist. This is because blog offer an opportunity to communicate outside the classroom to which learners are unaccustomed.

One more point that is important needs to be mentioned. At the beginning of the sixth week, it was noticed that learners were more active and excited about reading created

posts on any subject rather than reading ones that been imitated or copied from other websites. When discussing blog activities during class, one learner said,

“I am looking to read my colleagues experiences or thoughts rather than reading how much skill he has to convert to other content.”

Others supported him by arguing,

“Some diverted posts could be useful but the majority of posts do not reflect any new information regarding our modules.”

There was, therefore, general agreement that contributed posts make learners’ activities more engaging and more exciting to read and write.

8.3.2.3.2 Blog activities - posts and comment issues

As a measure of total blog activity one hundred and forty-four posts and one hundred and seventy-six comments were recorded during weeks six to eleven (see Table 16.) It is clear that the number of posts and comments increased to their highest number in this study. In addition, every week the researcher discussed the blog activities, i.e. learners’ posts and comments during and outside the class. Moreover, the researcher became more active with learners’ posts and comments. The aim was to investigate the effect of the increasing interaction by the instructor (researcher).

	Posts	Comments
Week 6	2	0
Week 7	2	6
Week 8	4	5
Week 9	13	13
Week 10	21	22
Week 11	102	136
T	144	182

Table 16: Number of posts and comments from the sixth to eleventh week

It was observed that learners spent less time being interactive with long posts. This showed that learners preferred to express their displeasure by not participating with these kinds of posts. Nevertheless, there was an increase in interactivity by learners,

probably because of the rules that were agreed upon to be followed by the end of the first cycle at the fifth week. In addition, the majority of the posts were related to the module's syllabus. Only eight posts were directly related in general terms to the module's subjects.

In addition, because of the new learner/instructor strategy, it was observed that a few issues affected the learner's posts and comments. These will be mentioned as follows:

- It was found that the learners took more notice of the researcher's comments and criticisms about their posts. They agreed instructor interaction, even if it were not positive would improve their motivation and make them feel 'good' because by reading their posts the learners felt that the teacher appreciated their work and efforts. Furthermore, they believed that they were getting the instructor's attention. With regard to this, one of the learners said,

"Just to see your comments is fine, that you are reading my posts."

He added more explanation by saying,

"The other good side is to see your interactive that seeing our comments and responses means that you are sending a message to learners that you are her, and following you, which we can understand it as you are aiming to send "indirect motivation."

In addition, the majority of the learners indicated the importance of the instructor's responses through the blog because it motivated them to participate and they knew that the instructor was following their posts and comments despite the fact that blog interactions attracted no marks. Interactivities, therefore, are significant as they affect the implementation of a blog.

- Through a discussion of learners' posts and comments, the main issues they posed were highlighted. This was found to be very important. Furthermore, some posts and comments indicated the importance of the instructor's indirect way he presented his preferred subject to capture a learner's attention. By that, one would have an indication of what type of content could attract ones attention. It is clear that the number of posting rose from two during week seven to one hundred and thirty by week eleven.

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- Compared to other kinds of postings, the number from other websites continued to decline. That meant learners preferred the original or posts that related to the module. In addition, it was noticed there were more short comments compared to the first five weeks.
 - Learners had become more interactive with their posts, discussing, asking or requesting issues, sharing experiences or opinions. For example, most comments by learners were contained in posts that either relied upon or required experiences, e.g. the posts entitled “The use of computers in the learning resource centre” received fourteen comments, which made it the most popular post. The content of this article relied upon the participants' experiences regarding their subject.

It seems that the rules that had been followed during this period affected learners' interactions, they became more interested in sharing, commenting and responding to any content that been contributed by the writer.

8.3.2.3.3 Nature of the content

During this period of the research most learner activity resulted in the production of new information and ideas related to the subject of their posts and a further sharing of their experiences and this information. These kinds of activities were found to account for more than half the total number that were generated during this period. In other words, the amount of adding and presenting new ideas containing new information or sharing experiences doubled between week six and eleven compared to the first five weeks of the research (see section 8.2.1.5.3, in Table 15).

In addition, it was observed that the learners had become more interactive in terms of presenting and contributing valuable content and engaging in critical analysis. Furthermore, critical analysis is required to increase the opportunities and the ability to share and post blogs content. Most blog content relied upon a learner's analysis. For example, learners appeared to present content in order to encourage others to form a critical view of it. This was because the majority of comments were the result of

learners' own analyses, understanding and investigation. For example, the number of learners that provided complimentary replies and short comments had reduced compared to the first five week of the research by more than one third. Table 17 shows the nature of the comments from the 6th to 11th week of the research.

Indicator	Example	N.
Discuss same post subjects	<p>"I am agreed with you in terms of increasing this issue of adapting technology." 11/11/2010</p> <p>"Thank you for your comment but my subject speaks to the people in the field." 18/12/2010</p>	13
Complimenting, expressing appreciation	<p>"Great efforts, thank you" 2/11/2010</p> <p>"Great posts, thanks" 28/11/2010</p> <p>"Thanks for this post and the links" 18/12/2010</p>	24
Asking questions	<p>"I would like to you to add your experience regarding the post's subject" 24/12/2010</p> <p>" Thanks for this posts but how long time will take for" 2/1/2011</p>	12
Short comment	<p>"If you need more information, I will sent it via your personal email..." 17/12/2010</p> <p>"that will increase the knowledge regarding this issues..." 25/12/2010</p> <p>" The e learning is not suitable for some..." 24/12/2010</p>	30
Present new information	<p>"This is not critiquing the post but I would like to add some information that..." 13/12/2010</p> <p>"There are so many factors that could increase the integrating of technology such as..." 30/12/2010</p> <p>"Great posts but the downloading need to install Sun Java 1.5.0_15..." 1/1/2011</p>	27
Add new ideas related to the post's content	<p>"The different level of establishing the scenario comes in the next points..." 17/12/2011</p> <p>"Now we live in the time of technology and the explosion of technical and cultural knowledge..." 30/12/2010</p> <p>"you can use this website for downloading your slides that..." 29/12/2010</p>	34
Sharing own experience	<p>"In my opinion that the obstacle of integrating technology..." 24/12/2010</p> <p>"I am agreeing with this subject. I think that is because of the technology culture" 2/1/2011</p> <p>"I explore from the survey that we made that..." 05/01/2011</p> <p>"What is see that, the small cycle in educational technology that." 1/1/2011</p>	26
Quoting other posts e.g. repeat same content	<p>"It is true that the teacher has a rule to effect" 28/12/2010</p> <p>"I would like to emphasize what you posts by..." 1/1/2011</p>	16

Table 17: The nature of comments from the week 6th to 10th week

With regard to the nature of the content in table 20 and as it can be seen from section 8.3.2.3.2, Table 16 the amount of posts and comments had increased sharply during this period. The increase was attributed to enhanced interactivity through sharing and adding new information and experiences. The nature of the content of the first five weeks changed compared to the current period of the research to become more focused in terms of the contributory nature of the comments rather than their number, i.e. providing short and complimentary contents. With regard to this, there are a few points that were observed listed to gain a better understanding of this dramatic change.

- As shown in the blogs, learners that were less interactive responded with long articles. It seemed they wanted to convey the message that they were not interested in long posts and those transferred from other website content.
- They were more interested to give their opinions or share experiences rather than to participate. This was observed when the researcher asked one of the learners what attracted him when he participated with others in the blog. He said,
- *“I am looking to improve my knowledge by interacting with others’ experience.”* and not reading other experiences that could not be associated with the modules.
- The majority of learners agreed of being resentful when they were required to compliment short posts rather than discussing or sharing others’ experiences or ideas regarding the subject. They presented the argument in two different ways:
 1. They became less interactive when posting the short replies as suggested by Table 17. This reduced the amount and number of questions that were asked together with complimenting or expressing appreciation compared to unsolicited behaviour via blogs, e.g. long posts.
 2. “Ignoring” to respond to long posts has been observed. Some learners have an idea that transferring posts and writing long articles is a wasted effort because they do not offer something new.
- Most of learners showed that interactivity via the instructor in a blog is motivating because it makes the intercourse more exciting and encourages

communication. Furthermore, a few learners indicated that they are less interested in posts that offer no activity and vice versa. This meant that any activity, i.e. posts, comments or issues mentioned by the instructor affect a learner's interactivity.

8.3.2.3.4 Reflections regarding the instructor's activities

The instructor in this cycle followed a different strategy with respect to blog usage with learners. Interactivity with the instructor was the major factor that excited the learners to engage in blog activities, for example, the instructor's opinions and comments about their posts. Such interactivity would include discussion, adding comments and posts. The learners were found to attach great importance to what the instructor said about their interactivity through blog content. Thus any instructor's comments would lead them to change their way of participating by adding content, e.g. some learners claimed that they watched the instructor at the beginning to see which subject or post he would prefer to shape or avoid in contrast to the ones you like.

Summarizing and discussing learners' interactions at the beginning of this period by the instructor affected the nature of their activities with blogs (see point number 2 in section 8.3.2). The majority of the learners indicated that it affected their behaviour. The learners said that they were waiting for the moment when the instructor would mention some of their posts and comments and give feedback in order to encourage to contributions. With regard to that the instructor was trying, through his interactivity to summarise and discuss some learners posts and comments. The reasons for this are as follows.

- 1) To avoid a discussion of content that had been transferred from another website (copy and paste) to discourage learners from engaging in this practice.
- 2) The results of interviews during this period (see section 8.3.2.2) showed that the learners were aware of the significance of instructors' interactivities more

than the value of the blog's content and sharing their experiences. Moreover, when the researcher discussed some posts in class, one learner said to the instructor 'in private',

- 3) *"We are following what you are posting to see what are your comment and the way of your reaction."*

He added further,

"...our discussing of the content shapes our thinking of how to engage in the blog and get your intention."

This means that the instructor intended to present the type of content in the blog that included contributions, e.g. posts that included sharing experience, adding new information and proposed new thoughts with regard to the module's syllabus.

Despite the fact that blog activity in this module earned no marks, learner interactivity remained high. There are two different main reasons for this. First, the incidence of instructor interactivity had been increase and provided in different ways (as explained in sections 8.3.2 and 8.3.2.3.3). Second it had been decided to follow only a few guidelines e.g. avoid long posts, short comments and contribute contents.

8.3.3 CONCLUSION OF THE CENTRAL-DATA COLLECTION

The findings of the second cycle can be summarized by the three main points.

1. First, the issues related to the rules for participation in blogs. There were two main visions. A few learners wanted to have some rules to follow when sharing and posting while others preferred blogs with no rules attached.
2. The second point was interactivity, i.e. responses and replies that gave opinions about posts. It was very essential to motivate learners, whether between learners or with the instructor. Some learners indicated that interactivity with the instructor was main reason that motivated them to continue to participate in the blog.
3. Third, the content of posts and comments in the blog directed or guided learners of the way to post and make comment.

During this period, learner participation was higher than first action cycles' activities. The numbers sharing experiences and adding new information increased because of the interactivity between learners.

8.4 THIRD ACTION RESEARCH CYCLE

8.4.1 THE PLAN FOR THIRD CYCLE

Three crucial features of the research were enhanced for the second action research cycle so they could be investigated in more detail. These were instructor interactivities, blog instructions or rules and the impact of the contents (see sections 8.3.2.2, 8.3.2.3 and 8.3.3). Most significant was instructor interactivity, i.e. the posts, comments and replies that arose when discussing issues of blog activity in class. It was identified that the learners were concerned about their instructor's behaviour on a number of issues. These were the modes of communication, writing, commenting, posting and adding notices according to what the instructor liked or disliked about the blog etc. This behaviour may have caused the huge increase in the number of learner posts and comments during the second action cycle. This increase could have been stimulated by the change in the nature the instructor's interactivity. This may have modified learner's interactivities with the blog causing a consequential increase in the number of postings and comments. Furthermore, during the previous period, learners were thought that encouragement was one aspect that possibly affected their behaviour and activities.

In addition, there was a possibility that the increase in number and value of the interactivities was caused by the instructor influencing the actions of learners via the blog. Instructor interactivity was designed and used to observe and link the impact of teacher actions on learner's behaviour and activities through the blog to gain a deeper understanding from different perspectives. These detailed finding were used to

support and compare the results of the first and second action cycles in order to identify more concepts and factors that affected learners' perceptions (see section 8.2.2 and 8.3.3). Hence, in the third action cycle, a few actions were changed as follows.

1. The instructor reduced the number of times blog issues were mentioned in class. The instructor tried to avoid discussing related blog issues with the learners.
2. The instructor became less active in sharing and providing content through the blog compared to his activities during the second action cycle.
3. Encouragement given to learners decreased. It had been noticed that the learners tended to be more active when the instructor encouraged them in terms of their actions and responses.

These modifications to actions were instituted from the end of eleventh week until the end of the course. Moreover, data collection during this period was aimed to observe and record the reflection of the learners' due the changes that been made. Following section will describe the post- data collection procedures during this period.

8.4.2 POST- DATA COLLECTION

The next section will describe the findings of the post-data collection. It will include, details of the post-questionnaire (30 learners), the sixth (2 learners) and seventh (1 learner) interviews and the observation, i.e. learners' behaviours, opinions and activities through the blog. This section will also include, sequentially, all the activities for this period, besides presenting the results and findings for the cycle.

8.4.3 POST-ATTITUDE FINDINGS

Learners were asked to answer the same questions that they answered in the pre-questionnaire (see section 8.2.4). All thirty learners responded to the post-questionnaire. Thirteen learners presented their opinions with respect to the questions that related to attitude. Their answers (see Figure 33) show the issues they had

considered and the ones that could be influenced by their attitudes regarding blog implementation. Almost all of the learners showed a positive attitude toward the utilisation of blog services, accepting to participate and recommending it to others.

‘Communication’ is recognised as one of the main reasons for using blogs. Learners understood that participation could modify their attitudes. The learners considered that communication provides the ability to *‘exchange experiences’*, ideas and *‘share thoughts’*.

Furthermore, learners claimed that blog services were a good way to connect and communicate with participants, especially between learners and instructor.

Exchanging experiences proved to be a beneficial act, for instance, PO.Q1.S17 PO.Q1.S8 and PO.Q1.S7 said respectively,

“Because the learners exchanging their experience to get benefits.”

“Based on my experience in this course, I have found connected and exchanging ideas and thought its value.”

“Yes I will accept it because 1) it is a good method to communicate between learners and teachers 2) Via these tools, students will used to dealing with technology stuff 3) Students will be participating in the subject.”

Moreover, *‘ease of use’* is considered a *‘feature’* of blogs that encourage acceptance. Some learners believed that *‘ease of dealing’* with blog services made *‘sharing information’* convenient. There was a diversity of opinion regarding the use of multi-functions, which provides the ability to share and add hyperlinks to content. Multi-functions relate to the *‘features’* of the blog. Importantly, this means that blog specifications (features) provide an advantage because they are easy to use. Here, learners exhibited positive attitudes and favoured engagement with blog experiments

because they felt that blogs engender motivation by performing interactions and activities. In this regard, PO.Q1.S2 and PO.Q1.S24 said respectively,

“Yes, I will accept it because 1) it is easy to use for learners 2) there are multi-options in control panel 3) ability of easy to comment 4) ability of linked with sharing websites, such as, Facebook, twitter.”

“I will accept it and will recommend my friends to do so, for several reasons 1) allowed us enrich materials 2) gives a chance for interactive with others 3) easy to use and 4) motivates with using it.”

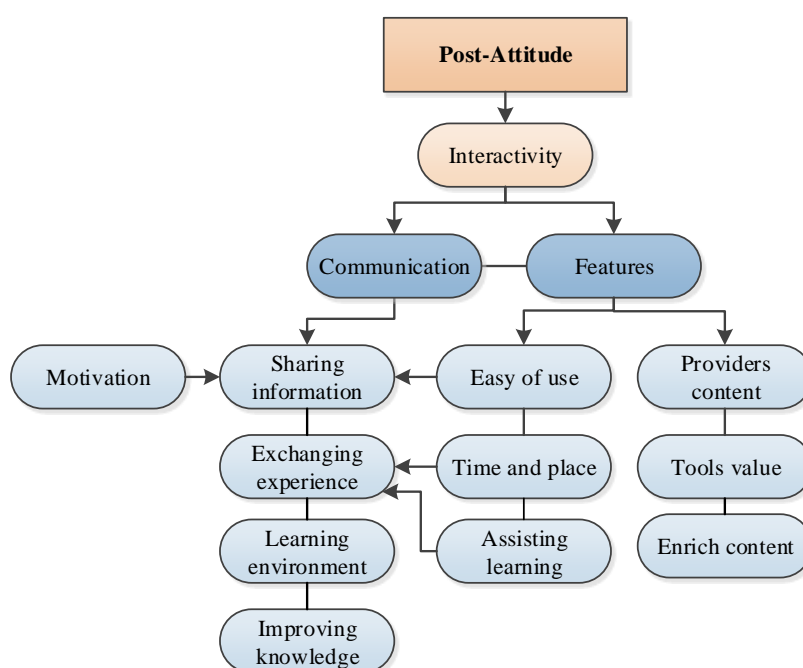


Figure 33: Issues influencing the attitude of the implementation of blog services after the empirical study

As can be seen from the above, PR.Q1.S24 argues that blogs are easy to negotiate, therefore, making the probability of ‘*interaction*’ high when dealing with the ‘*content*’. Moreover, he argued that interaction through blogs encouraged motivation.

Regarding ‘*interactivity*’, two learners agreed that blogs provided interaction between learners, which would cause them to accept the use of blogs in the future. PR.Q1.S12 believed that discussion through blogging provides ‘*interactivity*’ between learners.

He said,

“I will accept, because the interactivity and discussing provides.”

His colleagues held similar opinions but the above learner proved more positive because he accepted the need to engage actively with other ‘*experiences*’ by blogging. Furthermore, he believed that participants with similar backgrounds would increase their ‘*interaction*’. PO.Q1.S13 said,

“There is no doubt I will accepted it because I believe that the blogs will be more interactive if all participates are one group related in some way.”

The ability to exchange experiences at any time and in any location is considered a positive attribute. With this in mind, PO.Q1.S17 said,

“Accept it and will give a recommendation. Because it allowing to exchanging the information at any time and any places freely.”

For other learners there is the view that this tool assists communication as the following statement shows.

“Yes, in sure I will accept, because I have use it, found a benefit, also, blogs assist tools for communicate and exchanging the experience.” (PO.Q1.S)

‘*Assisting learning*’ is the main reason for PO.Q1.S14 holding a positive attitude about utilising blogs. He believed that the ‘*features*’ of a blog could enhance the learning environment and said,

“I will accept engaging again with any activities with blog tools; also I will give recommendation for my friends if they ask me. Because, this blogs raise a few important interesting sides in supporting and enriches the learning environments.”

One learner felt that utilising blogs is suitable for use in higher education. He stated that the value of the tools offered by blogs, i.e. the way of delivering ‘*content*’ as well as its ease of use and ‘*features*’ ‘made him happy’ to take another course that uses blogs. PO.Q1.S11, however, said,

“Yes, I will accept it, because of the higher level of the value of transferring the information via blogs; also it is suitable for higher education levels.”

One more reason that caused PO.SQ1.S10 to be sure to accept other modules that used blogs was the opportunity to integrate with his learning. The reason was that his ‘*knowledge was improving*’ due to blog tools. Visibly, his opinion is based on his experience gained through blogging activities during this the study. He said,

“Of course, I will accept it, as a result of our blogs’ activities; my intention has been increasing for the importance of the adaptation of such these tools. So I would prefer to use it in future, also, recommended to my friend.”

The findings showed that blogs have the ability for ‘*improving knowledge*’. PR.Q1.S10 claimed that, his knowledge had improved because of the blog activities he carried out during the study. He said,

“Of course, I will accept I (mean using blog again in any future course) because of our blogs activities. My intention has been increasing for the importance of the adaptation of such tools so I would prefer to use it in future, also, recommended to my friend.”

As a result, ‘*communication*’ and the ‘*feature*’ of blogs were the two main issues that connected to interactivity, which affected learners’ attitudes regarding the implementation of blogs. Furthermore, most learners exhibited a positive attitude regarding their experiences with blog services. With regard to the factors, the learners considered ‘*communication*’ offered them the ability to exchange experiences, ideas and share thoughts. Furthermore, learners claimed that blog services are a good way to connect and communicate with participants and especially their instructors.

8.4.4 POST-FACTORS, ISSUE FINDINGS CONSIDERED

The data described in this section was collected from the post-data collection (see Chapter 6, section 7.3.5). This section consists of three main parts:

-
1. **First part** contains the findings of the post-questionnaire about learners' perceptions regarding their experiences that they gained from blog implementation. The components of this questionnaire were the same as those of the pre-questionnaire, i.e. convenience, content, interactivity, motivation, transferability, enhancing learning, interest, time and easy to use. The aim of this part of the research was to identify the changes in learners' perceptions and opinions and to classify the factors they had considered when they interacted with the blog.
 2. **The second part** includes the findings of the interviews, i.e. the third, fourth and fifth. The purpose of these interviews was to gain a deeper understanding of learners' opinions and reflections with respect to their blog experiences after five weeks of participation. The findings were used to confirmed or deny some of the observations that had accrued.
 3. **The third part** includes the findings of the observations of learners' behaviours, actions, usage, the nature of their interactions and their opinions. In particular, the nature of learners' interactions, blog activities, post content and learners' reflections will be described. In addition, different issues emerged, e.g. interactions regarding instructor activities.

8.4.4.1 **The Post-Questionnaire - The factors related**

8.4.4.1.1 **Convenience**

The ability to post and share at any *'time and place'* and *'ease of use'* were major factors that influenced learners' convenience (see Figure 34). The majority of the respondents showed that the cause of their convenience was due to the facility to do activities at any time and place, which means that the time and place for blogging is unrestricted

The learners stated that the use of blog activities allowed participation at convenient times and locations. With this in mind, for example, PO.Q2.S1, PO.Q2.S3 and PO.Q2.S9 said respectively,

“Blog is not linked with time and places, you are able to write and sharing in any time and places.” (PO.Q2.S1)

“The way of commenting and posting via the Internet, which means the ability of doing activity in any time” (PO.Q2.S3)

“Because I can post and share my ideas when I am in anywhere.” (PO.Q2.S9)

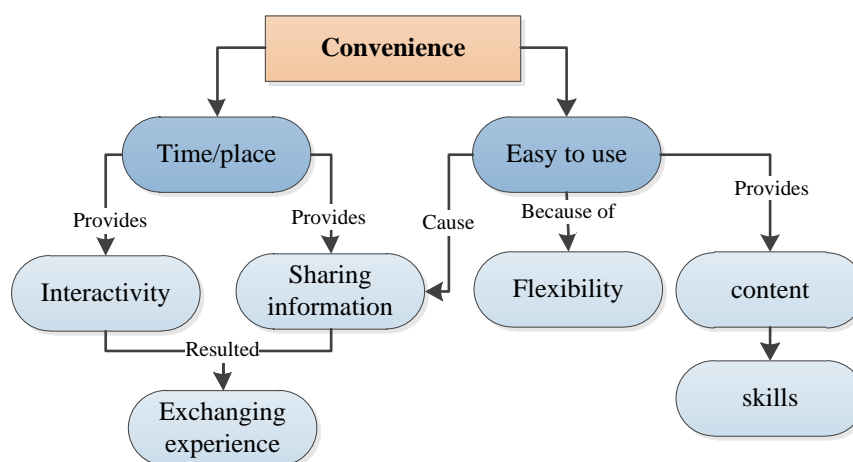


Figure 34: The perception of learners regarding convenience

Moreover, there was agreement between the learners that blogs are a convenient tool because of their ‘accessibility’ and ‘ease of use’. In this regard, PO.Q2.S22 agreed with PO.Q2.S10 that blogs are easy to access but adds that they are dependent on online providers, which means that the internet is required. They said respectively,

“Based on my experience in our blog, I can access to the blog at any time and any place. Also I found it easy.” (PO.Q2.S22)

“Basically blog is based on a communicative Internet and Internet access is quite easy to reach in recent times in Saudi Arabia.” (PO.Q2.S10)

Three concepts are related to time and place ‘sharing information’, ‘exchanging experience’ and ‘interactive’. When considering the issues involved in posting and

carrying out activities at any time, PO.Q2.S9 indicated that blogs are convenient and that posting and sharing is possible at any time. He said,

“Using blog activities allow participation at convenient times and places because I can post and share my ideas when I am in anywhere.” (PO.Q2.S9)

PO.Q2.S16 agreed with that when he said,

“It allows me to share without any limit on time and places.”

Gaining access at any time and place made the environment conducive for learners to provide content for sharing, exchanging experiences and thoughts and improving skills. In this regard, PO.Q2.S8 said,

“It is like an ‘open email’ speech with all Internet communities, provided ideas and opinions and improving education skills.”

8.4.4.1.2 Content

Such was the diversity of learners’ opinions regarding blog content that it resulted in eleven factors identified as being involved (see Figure 35). All learners agreed that blog activities provide sufficient content for the module to be successfully taught, except four. Two of the four failed to give a reason for their disagreement while the other two indicated that the information (content) provided through the blog was inadequate for the modules based on what was required by the subject. This suggests that they had to gather additional information and materials from elsewhere in order to meet the module’s requirements. For instance, PO.Q3.S6 said,

“The information ‘content’ is not enough and the learning is not limitation.”

According to PO.Q3.S1, PO.Q3.S2 and PO.Q3.S15, their responses seem to show that ‘*exchanging experience*’ and ‘*interactivity*’ can be provided through blog content as they are interrelated in terms of ‘*enhancing learning*’. In other words, interactivity

between learners through posts and comments in blogs facilitated an exchange of experiences. Moreover, learners were able to interact and communicate through content via posts and give responses through comments.

“Interactivity is provided between the learners and exchanging the experience and activities.” (PO.Q3.S1)

“Contents make me get lots of experience during using the blog with the course.” (PO.Q3.S2)

“If the learners will participate within the activities in interactivity that could display deeper information.” (PO.Q3.S15)

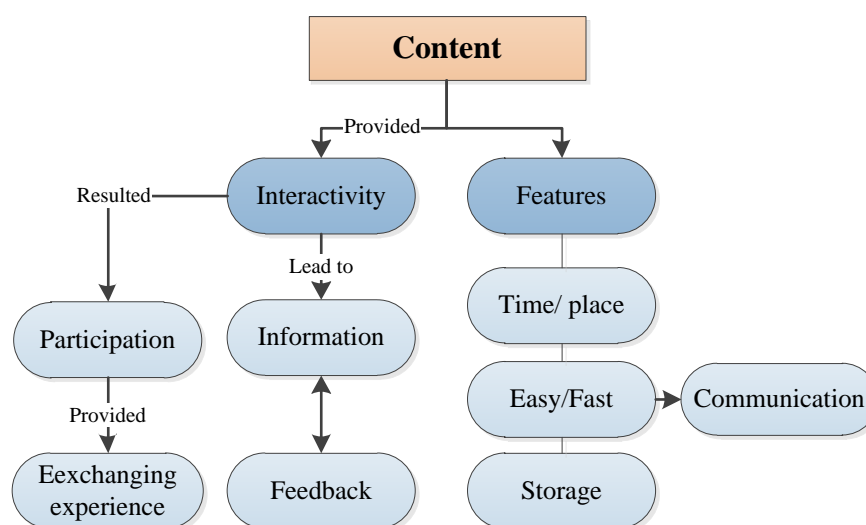


Figure 35: The perception of learners regarding content

The ‘*features*’ of blogs, for some learners, provided an advantage. One these features enabled linking different activities to the subject using hyperlinks. This advantage enriches the subject and links thoughts, ideas and arguments, etc. PO.Q3.S7 claimed that activities are linked to the module by blogs and this is assisted by the introduction of rules or ‘*structures*’. This emphasises the important role that rules play. He said,

“Almost all activities via blogs are linked with the subjects especially when put rules for posting and comments.”

In addition, ‘*participation*’ itself, for some learners is considered valuable when it originates from running activities. This facilitates further exchanges of experiences between participants. PO.Q3.S4 said,

“Run the activities and exchanging the experience between the learners and teachers.”

Furthermore, the same student commented that a contribution that is provided and created by a learner is a logic result since it is produced through dialogue and discussion between participants. He said,

“Contributing is providing the information; also allowing learners to discussed and argue by giving ideas.”

The positive side of the ‘*time and place*’ concept was that a few learners believed that activities provided sufficient information, as blogs are easily accessible in terms of time and place. This means that comments and content can be added, thus providing the opportunity to participate and interact. PO.Q2.S17 and PO.Q2.S27 agreed with this statement. They emphasised this concept when said respectively,

“It is with me all the time, either when I am on holiday or not.” PO.Q2.S17)

“I found it easy at any time based on my experience.” (PO.Q2.S27)

One of the learners preferred the importance of the information provided by the instructor. This learner stated that the content provided through blogs was sufficient, as the instructor is responsible for providing the enriched information. PO.Q3.S20 said,

“There is enriched information from the teacher a person who is responsible, also, all new information are provided.”

One of the learners agreed with this and commented about the importance of ‘*feedback*’ upon the contributed content (mentioned for first time in the questionnaire). This learner said,

“The information providers in a blog could need in somehow to audit in case we want to judge whether the information is enough for the subject or not.”

Another feature of a blog is ‘*storage*’, i.e. where the data and content can be stored in an archive. This feature made reference to data easy and quick. One learner agreed noting that allocating a place within a blog for saving large amounts of content is valuable and allows individuals to re-read information when needed. PO.Q3.S29 said,

“All the efforts provide from learners becoming in one place and it could be re-read, instead of the data being separate.”

PO.Q3.S28 claimed that communication through blogs is ‘*easy and fast*’, which could justify easy access and fast access to content as it is all in one place. PO.Q3.S28 simply emphasised this feature when he said,

“Communication is easy and fast.”

8.4.4.1.3 Interactivity

Throughout the course of this question, a full response was gained from the participants (see Figure 36). All learners agreed that blogging activities gave the opportunity to interact with others. Only three learners disagreed. Certain conditions were highlighted as being important with respect to the level of ‘*interactivity*, e.g. if there was a response provided for posts and comments. In other words, as long as there is interaction, the content will be enriched with the relevant beneficial gains.

The second condition is linkage, which provides multimedia with the content. The learners believed that when integrating multimedia, e.g. pictures, videos and audios, etc. with content a level of interaction would be achieved, as well as experience.

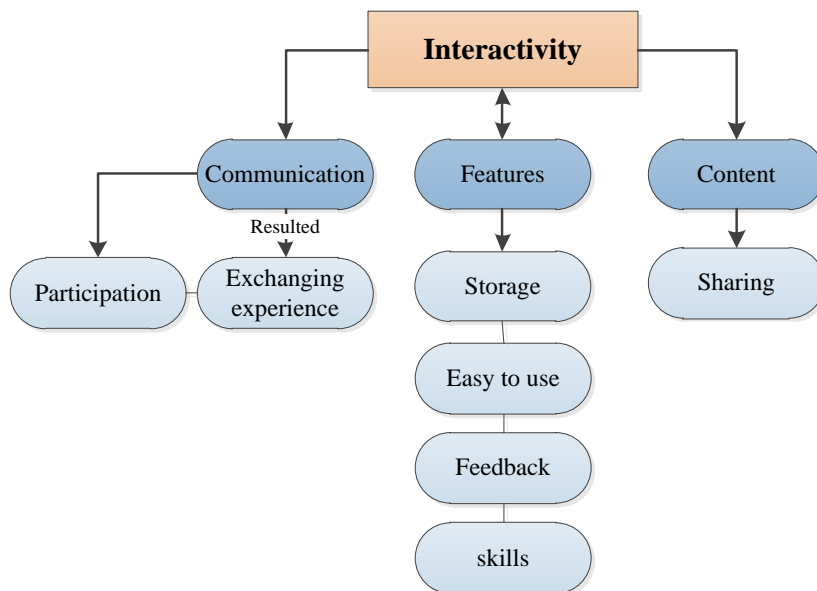


Figure 36: The perception of learners regarding interactivity

In addition, most learners focused on ‘*exchanging experiences*’, ideas and thoughts with each other as the result of interactions. Furthermore, their attentions were concerned with the ‘*features*’ of the blog. They mostly held the belief that the ‘*features*’, i.e. ways of commenting, the ability to post multimedia and open communication and the potential to utilise the tools at any time and place are beneficial. For instance, PO.Q4.S2, PO.Q4.S3 and PO.Q4.S4 said respectively,

“Agreed, because the ability of links it with other’s social networks or information.” (PO.Q4.S2)

“Blogs is allowing discussing and posting with comments in one particularly subject.” (PO.Q4.S3)

“The features allowing you to be interactive with others in a big range and get benefits via that.” (PO.Q4.S4)

With respect to ‘*exchanging experience*’, a few learners showed that there was a relationship between serious dialogue and gaining experience from each other. ‘*Exchanging experience*’, however, was a result of the actions and responses made by

learners and from posts and comments. Furthermore, gaining experience was not achieved through the information that was provided but also from the improvements made by learners gained from dealing with this type of internet service, i.e. blog services. PO.Q4.S5, PO.Q4.S23 and PO.Q4.S526 agreed when they said,

“Exchanging experience if there is a serious discourse also should have clear aim.” (PO.Q4.S5)

“One condition is that if the user gains an experience with dealing and is interactive with blogs.” (PO.Q4.S23)

“If the blog relates to a main subject of the course that will gain the aim, as well, if the instructor is close, posting and commenting is a good experience that probably would reflect.” (PO.Q4.S526)

From a different perspective, some learners present their opinions in terms of the opportunities that blogs provide for ‘*sharing information*’ because of the similarity between learners’ backgrounds. In addition, they believed that when the information was provided and posted, it made interactions more beneficial. In the end, interactivity between learners will offer an online environment for education and assist in the negotiation of diverse subjects within one field that have originated from different learner experiences and backgrounds. The statements of PO.Q4.S12 and PO.Q4.S17 showed that they accepted the idea that blog activities gave opportunities to interact with others. The reasons for this are highlighted when they said,

“Because the similarities of the participants’ field.” (PO.Q4.S12)

“It is mixing articles from mixed backgrounds with official references and sharing ideas.” (PO.Q4.S17)

Another factor was ‘*easy to use*’. A few learners who believe that blogs are easy to use have referred to this feature repeatedly. Ease of use is agreed by PO.Q4.S28, who noted that communication through blogs gave opportunities to interact since blogs provide easy communication. He said,

“The communication is easy and fast.”

For some learners, the value of content is a condition to interact. PO.Q4.S20 claimed that posting new subjects would be followed by the addition of comments, which will encourage exchanges leading to the acquisition of benefits. Exchanging information, therefore, is ensured as long as there is new content (new subjects). He said,

“New subjects in encouragement, also the comments from all the participants will enrich the content, which will somehow gain by exchanging information.”
(PO.Q4.S20)

One interesting statement claimed that ‘*communication*’ with the instructor is valuable and that interactivity is a positive phenomenon from which learners obtain the feeling that the instructor is close by via the activities. This view is by PO.Q5.S26 who argued that carrying out activities, e.g. posting and adding comments will present an environment where the instructor will respond as he will be close to the learners. He said,

“Blog related to the main subject of the course that will gain the aim, as well, if the instructor is close, posting, comments is a good experience that probably would reflect.”

Furthermore, he also said,

“We can communicate via blogs.”

In addition and surprisingly, ‘*sharing feelings*’ was mentioned. PO.Q4.S29 claimed that interaction through the blog gave the feeling of wanting to share. He said,

“It is beautiful to share your feeling with others even if is it sharing failure or success experiences and it is part to evaluate yourself to going forward.”

8.4.4.1.4 Motivation

A diversity of factors and perspectives were involved with this question. Most learners agreed that blog activities required learners to be self-motivated. Eleven

factors are associated with motivation and listed in Figure 37. These factors were given as reasons that made learners state that blogs can be viewed as tools for encouragement. The majority of learners agreed that blogs offer not only numerous ways to develop and improve their knowledge but also their personal motivation. The findings in this section showed that the *‘features’* of a blog with their *‘interactivity’* were considered the main reasons and that make blogs a service that enhances learning environments so motivating learners.

PO.Q5.S1 mostly held that blogs gave motivation and inspiration to *‘share information’* at any *‘time and place’*. He said,

“Blog offers exciting ways and provides with no link with time and places.”

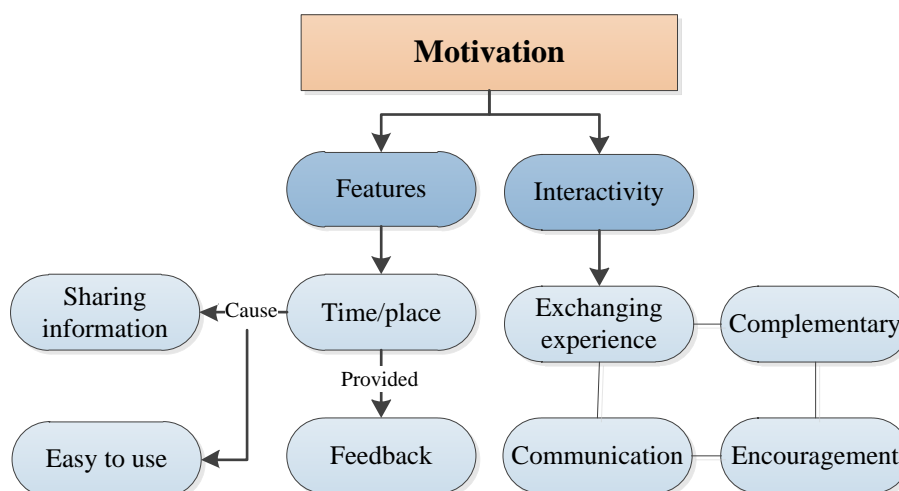


Figure 37: The perception of learners regarding Motivation

‘Encouragement’ by others is one of main reasons that cause blogs to motivate learners. With regard to this factor, PO.Q5.S29 claimed that considering other offers and posts would probably motivate him, as he did not want to be seen less active than

others. The feeling of participating through blogs encouraged him to work hard by self- motivation. He said,

“Via blogs, you are able to see other’s efforts posting, so you decide that you have to not be less active than else. Also, I will try hard to motivate you for learning.”

There was full agreement that ‘*ease of use*’ is an important feature of blogs that is able to affect implementation. In this regard, PO.Q5.S20 believed that learners invest effort in the form of activities that can be executed at any time and place. He further added that unrestricted activities, e.g. posts and comments are connected. He said,

“The acceptance of the learners comes at any time and without any restrictions.”
PO.Q5.S20

In the same vein, PO.Q5.S28 held a similar opinion but with respect to the ‘*exchange of experience*’. His reason was different. He maintained that blogs created more than one way to exchange experiences owing to their features. He said,

“Blogs motivate me because there is more than one idea that would help to exchange the experience.”

Similarly, ‘*communication*’ and ‘*exchanging experience*’ are causative and in order to justify this PO.Q5.S30 held the opinion that blogs have the ability to motivate. He said,

“I think it is right, blog activities require learners to be self-motivated, because of the communication and exchanging experience providers.”

One learner expressed the positive side of improving skills through blogs by focusing on the outcomes that are obtained from dialogue or conversation. His opinion is based upon what he experienced. He is supported by PO.Q5.S16, who said,

“Discussing and the conversations had been happened in our blog motivate you to do search, which will give you opportunity to improve your diverse skills.”

The opportunity to *'interact'* is one main reason why PO.Q5.S21 agreed that blogs require learners to be self-motivated. He said,

"There is a chance to interactive with others."

One positive factor that was mentioned was *'feedback'*, i.e. responses to comments made by learners and instructors. Moreover, it was felt that receiving feedback from participants would be facilitated by *'ease of posting'* and commenting at *'any time and place.'* These factors would help as there was ample opportunity to *'share information'*. PO.Q5.S2 and PO.Q5.S3 said,

"The feedback is taking a short time and it is assist." (PO.Q5.S2)

"There is a positive side to shared feedback between learners." (PO.Q5.S3)

For one learner motivation arose because all posts and comments originated from one group with the same background and the direction of the content and activities were related to their particular field. Learners highlighted that blogs motivate individuals as they provide a direct and good method of learning. PO.Q5.S17A said,

"Motivate me personally to work in direct good way to learn, especially with activate same subject friends."

Another thought stemmed from PO.Q5.S24. He argued that activities with blogs seemed to form one *'complementary'* element of learning. In other words, integrating blogs into a new web technology was intended to be a common complementary step for any learning environment because of the interaction. He said,

"Blog activates is complementary to the educational process."

Moreover, PO.Q5.S22 stated the belief that blogs are appropriate and interesting as they correspond with the continuity of education. He emphasised this when he said,

“The learning is cycling and continuing, and that fits with the blog.”

This means that blogs provide a continuous cycle of learning, posting and commenting upon content as an oral conversation. When writing, blogs are logically followed by thoughts. Possibly, one aspect of one thought is linked to another and so on.

8.4.4.1.5 Transferability

Only five factors were raised with respect to this question (see Figure 38). The majority of learners stated that blog activities disseminated information in a valuable, fast and easy way without them having to negotiating any difficulty. In fact, only one learner found it difficult to use blogs at the beginning. Transferability means that the information, the content, posting and commenting is easy to exchange and transfer.

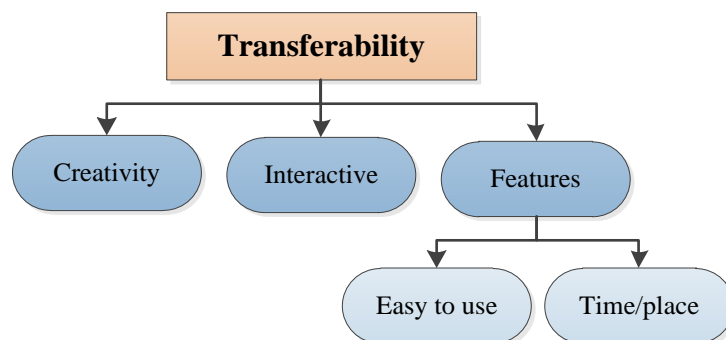


Figure 38: The perception of learners regarding Transferability

In addition to the factors regarding the ‘*ease of use*’, most learners shared the same ideas. The reason for this is that a blog is easy to learn and understand and use. This because it is simple to post upon them and make comments and so there is little need for skills. In addition, there are no restrictions in terms of time and place. In this regard, PO.Q6.S1 and PO.Q6.S3 said respectively,

“It is not complexity and smooth to used, also it is clear to understand.”

“I did not find any difficulty for posts or comments.”

Blog ‘features’ enable learners to perform searches to find information. In this regard, PO.Q6.S29 claimed that finding information in blogs is easy. He said,

“There is no difficulty to write or to find any information, even if it copy from other recourses or self-written.”

One learner claimed that blogs developed his creativity by encouraging him to and create content from different resources, which is the converse of copying using ‘cut and paste’ from different websites. He said,

“Because using copy/paste reduced the motivators for reading and participating as well.”

Creativity through interactions with blogs could take hold if learners adopt a constructive approach when they develop the content of posts and avoid ‘copy and paste’ of other contents.

8.4.4.1.6 Enhance Learning

The majority of learners accepted the statement that blogging activities are beneficial because they enhance their academic learning and achievements. Blog enhancement of learning consisted of ten factors (see Figure 39). Four learners did not give any opinions and left the questionnaire answer box empty. Singularly, one learner was neutral about this feature.

Two learners agreed that blog-related activities could enhance their learning. This opinion arose via two different blog conditions. PO.Q7.S6 argued that as long as the content is cited (trusted content) it will be valuable and acceptable in terms of enhancing the learning environment. He said,

“Will be good for enhancing our learning if there are clear resources and references for the content via posts.”

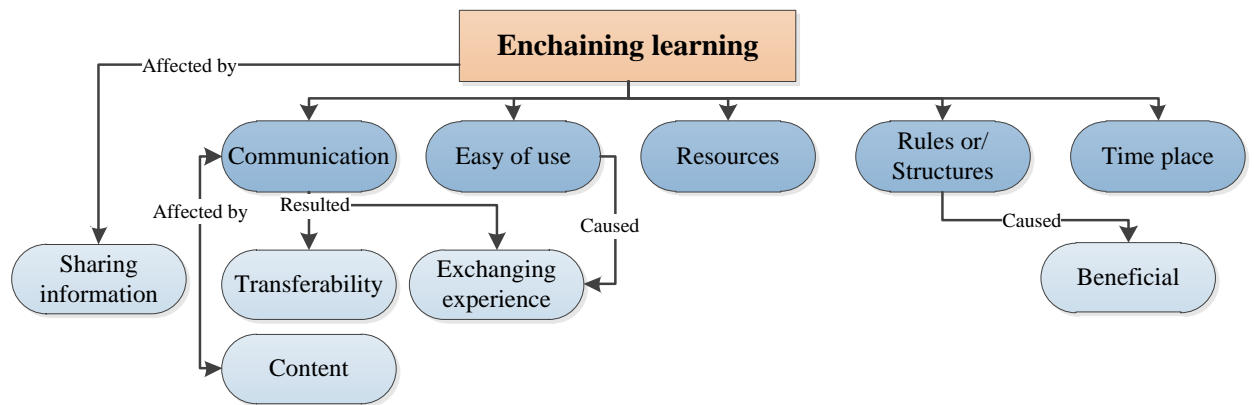


Figure 39: The perception of learners regarding Enhancing Learning

The second condition was derived from PO.Q7.S6 and it concerned the rules of the module. The learner indicated that participation should not be linked to earning credit or marks. This means that participation should be voluntary. The learner felt that blog activities are beneficial for enhancing academic learning and gaining achievements.

“In one condition if to participate not linked with the marks of the subject.”

With respect to the ‘rules’ of the blog, PO.Q7.S1 claimed that blogging activities should be structured. This means that instructors should set-up various general rules, e.g. make the subject of the post relate to the module’s syllabus. Moreover, he stated that he prefers to read posts relating to the module’s subject. He said,

“When there is an instruction to use, the posts and comments should be around the subjects, which will back huge benefits and help to reach the aims of the subjects.”

‘Sharing experience’ of knowledge was also noted as a factor that learners considered. PO.Q7.S26, however, suggested that depending upon the state of knowledge of the instructor, the student should be provided with sufficient information, thus enhancing the learning environment. He said,

“Agreed if the instructor has sufficient knowledge relating to the subject, which touch the interest of the student and meeting the student’s requirements.”

A few learners argued that blogs provide good online methods to ‘*communicate*’ with the instructor. Here communication would result in learners gaining benefits from reading in-depth or from ‘*exchanging information*’, i.e. posting files or new content, etc. In this regard, PO.Q7.S14, PO.Q7.P21 and PO.Q7.S24 said respectively,

“Blogs are the linked between the learners and the instruction.” (PO.Q7.S14)

“It allowed communicating with the teacher.” (PO.Q7.P21)

“Transfer files, doing researching and communicate between teacher and student.” (PO.Q7.S24)

Learners also indicated ‘*ease of use*’, owing to their ability to ‘*exchange experiences*’, a positive issue. PO.Q7.S20 argued ‘*exchanging experiences*’ is easy and simple, which is one positive aspect of the blog. Similarly, PO.Q7.S23 stated that returning to an old subject is easy and simple. He said,

“Blogs are easy to exchange the experience and easy to participate with any new knowledge.” (PO.Q7.S20)

“It is easy to get back to any subject.” (PO.Q7.S23)

One learner had quite a different opinion concerning learning enhancement. He claimed that reading lots of information assists learning. This means that blogs provide an environment for ‘*reading*’, which will ultimately enhance learning via the content that is provided. PO.Q7.S29 said,

“Lots and massive information in blogs really assist to reach the goal of academic rules.”

PO.Q7.S10 indicated the importance and the positive aspects associated with being able to reach one’s aim, such as, finding a particular piece of work. Moreover, PO.Q7.S5 mentioned that time is flexible and activities through blogs are easy if

access to information is gained quickly, such as, for revision purposes, thus emphasising the importance of ‘*time*’. They said,

“Actually, it is enhancing to reach the aims and retrieval information through discussing within the subjects.” (PO.Q7.S10)

“Because, there is time for activity for learners or for any aims.” (PO.Q7.S5)

One more factor is noted by PO.Q7.S7 who considered the benefits associated with blog activities, such as, using the blog for a more than one purpose. He said,

“Using blogs would make you reach the aim in a quick and short time; also it helps learners to do searches for any of information resource.”

8.4.4.1.7 Interest

Twenty-two learners voiced the same opinions in response to this question. They stated that blogs are interesting for learning purposes and highlighted nine different factors (see Figure 40).

Most learners discussed a number of different factors. Four learners agreed that participating at any ‘*time and place*’ made blogs interesting as no time limit was imposed on the length participation. Moreover, it was thought that writing skills could be improved. PO.Q8.S1, PO.Q8.14, PO.Q8.20 and PO.Q8.21 said respectively,

“A blog is not limited by time and places. Also, using lots of writing would improve the skills of writing and reading.”

“Good for the people who are shy in class or introverted outside the class at any time.”

“The learners log in whenever he would like and interactive at any time.”

“Allowing participating in any time and place.”

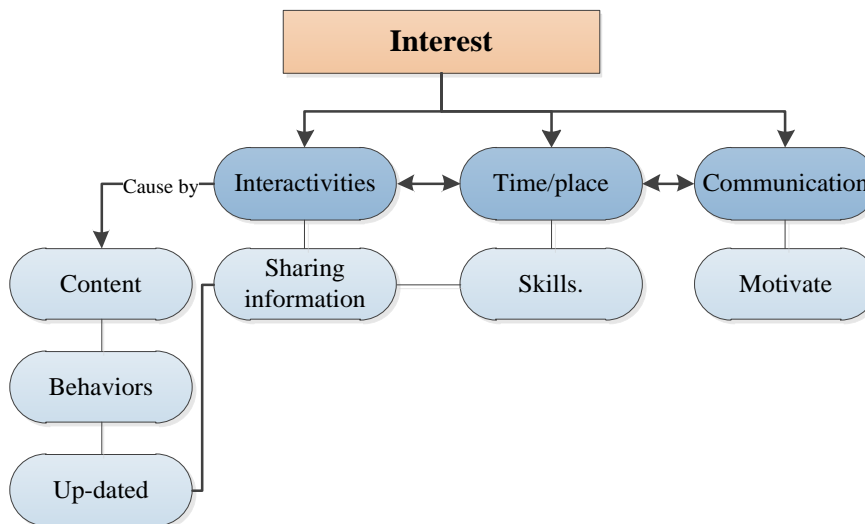


Figure 40: The perception of learners regarding the interest of blog

A ‘*behaviour*’ aspect was noted as an advantage. Some learners indicated that blogs provide a good environment for learners who are too shy to participate in class. Moreover, from another perspective, blogs were noted as appropriate for learners seeking to prove themselves, such as, when the learner would like to show that he has the ability to share knowledge or to gain self-satisfaction.

“Because of the nature of humans they attempt to get free opinions and to prove themselves.” (PO.Q8.P22)

“Good for the people who are shy in class or for introverts.” (PO.Q8.P14)

For some learners, ‘*sharing information*’ was the major factor that demonstrated the benefit from blogs that learners could enjoy. Simply, PO.Q8.S8 argued that the main reason he continued to post and comment was to share his information and opinions. He found this interesting and it caused him to become excited. Similarly, PO.Q8.S29 and PO.Q8.S8 believed that blogging provides a better way to achieve learning aims. They said respectively,

“I posted and commented; caused you to ask, after a while I am being exciting to log in and sharing.”

“Positive ambitious persons always want to be in the same lane and mostly he wants to be the first in his group, thus the blog providing activities, sharing and participants to reach that goal.”

Moreover, blogs provided an environment wherein learners can communicate and be active. Blogs also provide various ways to share activities, e.g. interaction through texts, media or pictures. PO.Q8.S9 believed that blogs are interesting and deliver numerous different types of activities. He said,

“It is interesting because it provided different types of interactivity between learners.”

PO.Q8.S30 held a different view. He emphasised that blogs are interesting because of instructor intervention, which supports participation. He also preferred to link activities to module marks. He said,

“It is interesting but that based on the motivation are giving by instructors. For example, if the teacher links the activities with some marks thus the activities will be more than to not linking.”

This interest feature associated with blogging comes from interaction through content, posts, comments, ideas and thoughts. In general, the learners felt that as long as content is close to the module’s subject, it will be interesting. PO.Q8.S25 indicated the importance of content through a blog. He said,

“It is interesting when the learners discuss and post any comments.”

PO.Q8.S24, argued that the nature of a blog encouraged and motivated him, which seemed to be associated with the interest feature. He said,

“Based on the student’s interested for educate, I see it motivate me to learn and read.”

Another and different vision came from PO.Q8.S7. He claimed that the method for connecting to a blog saves time and effort. This opinion requires the necessary trust that blogs are able to provide a good way of connecting and communicating with others. He said,

“Using blog will save efforts and time for learners via connected with other learners.”

PO.Q8.S10 claimed that updated information and comments that were made during the course through blogs were interesting. He said,

“The learners are looking for any news information, and being very eager to look at our blog to update it.”

8.4.4.1.8 Time

The majority of learners, i.e. nineteen, agreed that blog activities required less time in the context of academic learning. Learners highlighted nine factors (see Figure 41). Eleven learners had different visions. Five learners were unsure if the blog reduced the time spent on academic learning. All five gave short responses, such as,

“Neither agree nor disagree, it could be right (that blog activities require less time in academic learning) but I don’t think so.” (PO.Q9.S5)

“Do not accept and do not reject.” (PO.Q9.S7)

Three learners agreed that the blog does not reduce time but for different reasons. They did not share the same ideas why blogs required less time. PO.Q9.S12 did not state a reason. PO.Q9.S2 argued that the value of the content made him believe that activities through blogs required lots of time. He, however, said,

“It takes lots of time when I want for good value of the information.”

PO.Q9.S19 held completely different reasons. He maintained that ‘*content*’ can be copied from different websites and pasted into the module, which will make him spend lots of time. He said,

“If the almost all the content of posts has links for other websites would take more of time.”

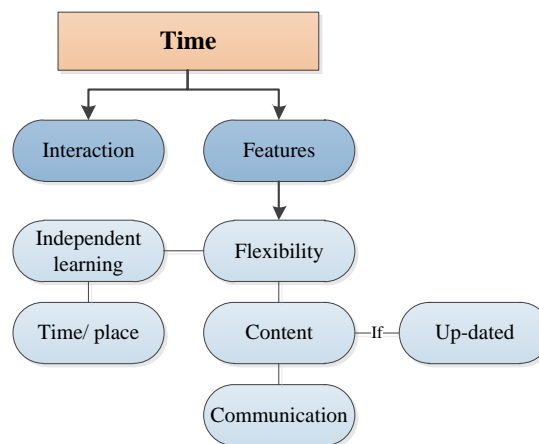


Figure 41: The perception of learners regarding Time

The ‘*features*’ of the blog is one of the main reason that caused PO.Q9.S3 to agree that the time spent on it is less than any other activity. He argued that the new technology, such as, blog services have the ability to communicate and conduct multiple activities. This opinion was emphasised when he said,

“Recent technology and the ability to connect for everyone to the Internet, there is no difficult to do any search doing any activities.”

‘*Up-to-date*’ of the content through blogging is very important. This means activities required less time in terms of academic learning. PO.Q9.S12 mentioned that the blog, connected over the internet adds updated information via learners, which saves time.

He said,

“Because it keeps us with progress and the easy to catch any information in blog is easy and saves time as well.”

For some learners, the reason is not quite related to the meaning of saving time in the context of this question. For instance, PO.Q9.S14 claimed that the use of the blog is enjoyable and there exists the possibility of saving time. However, he literally said,

“I agree. It is exciting and enjoyable for learners.”

One learner argued that he agreed that blog activities required less time for academic learning since completing activities through blogs are based on a learner’s potential and independence. He further suggested that content be created by one learner for one idea in a short time. Furthermore, all responses to those posts are independent and do not involve group work. PO.Q9.S20 said,

“Because each learner is responding independently, which means all his responds are related to his own ideas, also, does not take long time.”

8.4.4.1.9 Easy to Use

All learners responded to this question, although most held the belief that interaction through blog activities can be easy and they respond quickly to enquiries. The learners responses resulted in identifying eight factors (see Figure 42).

Some of the above factors directly manifested themselves as reasons that support the consensus that blogging are easy. For example, PO.Q10.S3 said,

“It is quick for reading and writing.”

PO.Q10.S10 said,

“Both, learners and teachers have to get a good background of technology would assist for quick respond.”

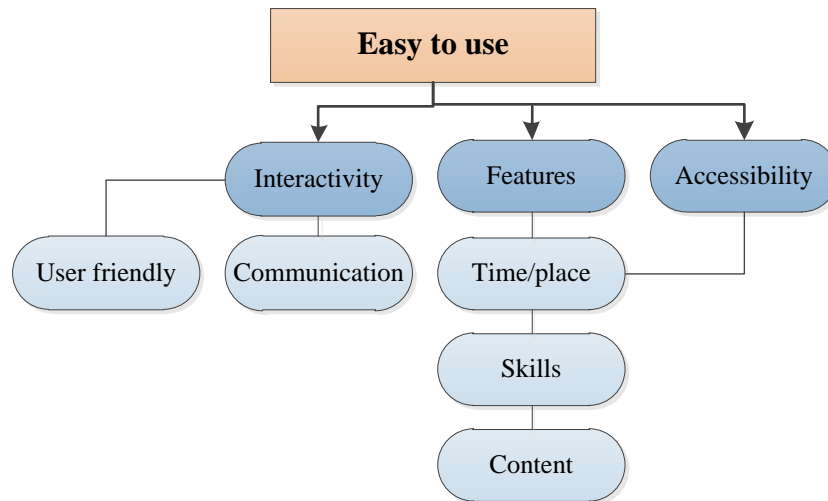


Figure 42: The perception of learners regarding ease of use

Six learners were neutral and did not proffer any opinions or ideas. The ‘*feature*’ of blogs and the value of ‘*content*’, however, was re-stated as factors that caused some learners to believe that blogs provided an easy internet environment. PO.Q10.S6 and PO.Q10.S30 said respectively,

“It is quick to deliver the information.” (PO.Q10.S6)

“It is fast to reach or getting any information.” (PO.Q10.S30)

In addition, a few learners indicated that interaction with a blog did not require any special skills and that engagement and the one designed for the module proved easy for them to use. In addition, blogs are not restricted to a particular time and place, as the service is provided over the internet, i.e. ‘*access*’. PO.Q10.S16 and PO.Q10.S13 said respectively,

“It does not need any further learning skills as it is easy.” (PO.Q10.S16)

“Because, it is not restricting with times and places.” (PO.Q10.S13)

Blog services, however, provided an environment wherein ‘*communication*’ is easy and learners are able to share and connect with each other. Therefore, PO.Q10.S15 said,

“Blog is easy to communicate and deal with.”

One learner indicated that his colleagues have the predisposition to use a blog as they can receive a response quickly and easily. Moreover, another good aspect was that they could post whatever they felt inclined. This led to the opinion that blogs are ‘*user friendly*’. PO.Q10.S20 said,

“Because the responding is based on the learner’s inclination, he can describe freely and get a quick response.”

‘*Interaction*’ between learners is valuable and comes from quick responses. PO.Q10.S25 said,

“There is speed responded from learners.”

In addition, PO.Q10.S29 insisted upon the importance of instructor’s communications. He believed that interaction and follow-up by the instructor in the blog is valuable and subsequently makes it convenient and easy for them to use. He said,

“Have mentioned in the evaluation of the blog, use of blog is successful because one reason, which is the following-up by the instructors.”

8.4.4.2 The Post Interview

Next sections describe findings of the data that was collected during sixth and the seventh interviews between the fourteen and seventeenth weeks of the empirical study (see Table 11). The main aim of the interviews was to increase an understanding of some of the learners’ behaviours, perceptions and thoughts regarding current issues. Moreover, these interviews sought to examine their personal interactions via blog usage. In addition, an in-depth exploration of some of the research topics was proposed. It was hoped that by this approach rich data, detailed and new insights would be obtained. The following account describes the findings for each interview.

8.4.4.2.1 The Sixth Interview, Week Fourteen, 2 Learners

The most significant benefits of the blog were found to be sharing information and knowledge. Interactivity made the environment more interactive. The research defined two types of interactivity. The first type is interactivity through the classroom while the second is interactivity through the blog. I6.W14.S1 and I6.W14.S2 said,

L: "What is most benefit you find in our blog?"

S1: "The best thing based in our experiences, sharing knowledge as the article posts, many points prepared by a colleague before post and sharing information."

L: "Do you think there is any technical issue that makes the usage difficult?"

S1: "I do not think so."

S2: "As well, agreed."

In concluding the interview with the two learners, it was agreed that the best descriptor that can be used to portray their experiences with the blog is,

"The blog makes our class more interactive."

I6.W14.S2 stated they both believed that.

S2: "The blog makes our class more interactive, makes our module has two parts, one in the class, and the other via blog [online interactive] but was a great project, I have enjoyed myself with reading our friends article, and the posts."

S1: "Yes agreed, also, was great and exciting as well."

The findings showed that the instructor could affect learners' actions and behaviours through his interactivities. Moreover, the learners admitted to generally observing and following what the instructor did through blog interactivities, i.e. the nature of his comments, what subjects he posted and what he prefers to do in an attempt to adapt the content of their posts and comments to fall within the instructor's interest. With regard to that, the interviewees said,

L: "Can I understand that the student is looking at the teacher interaction and following him?"

S2: "Yes, for example, you usually reply to some topics, so we looked at the topic to see which ideas attracted you."

S1: "Yes, agreed, in some contexts, yes most of them not all."

The problem with the above behaviour is that the learners follow the instructor blindly regardless of the benefits. The learners were attempting ingratiate themselves with the instructor so that the instructor got a good feeling that they were following him and his example. With regard to that, one learner said,

"The interactive between learners and the instructor in that way may be good, but the student could following your behavior to make you feel comfortable with what they post" I6.W14.S2

This statement led the researcher to ask the interviewees about their opinions regarding the structure of their interactions in terms of avoiding unwanted or 'undesirable' ones. They preferred to defined or determine the blog subject and to make it very 'precise'. I6.W14.S1 and I6.W14.S1 said,

L: "Mean that if the target of the blog defined precisely will it be better?"

S2: "Yes, sure"

S1: "Yes, integration, the titles of the blog should be defined."

L: "In terms of what?"

S2: "To make the blog more defined and its purposes for use."

When the researcher asked them to explain further, I6.W14.S1 said,

"For example, my point of view comes when we want to create a blog (activation of education sources as in the field (our module). I will be the supervisor and the manager, for example, you are the instructor will look at: how would you activate it the education sources in the leisure time? Where there shall be various suggestions from the colleagues and exchanging of information. How you will define the rules and based on what? Many questions will figure up!"

Overall, the learners preferred to participate with blogs if there were some general rules to follow. Rules would improve these learners' performances in terms of the interactivity between themselves and their instructor. Such interactivities would define the main subject including its contents and objectives, which will act as a guideline for learners while avoiding undesirable acts in the blog. Indeed, most of the annoying acts that made learners demand some rules were 'useless posts.' I6.W14.S2 claimed that learners were looking for a dialogue where they could exchange their experiences. He said,

S2: "I am being less active compared to the beginning. I found that most posts were copied or pasted, which was give nothing new, no dialogue and there is no difference between the blog and any other websites. I was expecting to share or at least to communicate in different ways."

In cultural terms, learners believed that integrating blogs in education would not be effective. In other words, there is no awareness in the education institution how to use them. The interviewee added that blogs as a technological tool are known in social communication, not for educational purposes. Furthermore, I6.W14.S2 said,

L: "Do you think that the culture of education regarding the usage of blog has a role, an optimum use of the blogs?"

S2: "No, No, our society is unprepared for this technology, as you know, here in Saudi Arabia the use of blog mostly being for social purpose., I would suggest to do an introduction of the usage of blogs in education before using it, by that is will raise the levels of cultural concepts."

Both interviewees admitted that the blog itself motivated learners, as they can read and write whatever. I6.W14.S1 and I6.W14.S2 said,

L: "Do you think the usage of the blogs itself is motivational?"

S2: "Yes, and very excellent, because we are reading blogs in our holidays."

L: "Is doing searching of information an advantage compared to time?"

S1: "Yes."

The main findings of this interview showed that learners were very excited to use blog tools in their learning environment. A positive attitude had been demonstrated. The learners, however, had different opinions regarding some of the issues. These can be summarised as follows.

1. The blog proved very interesting to use in class. Its main advantage was that it facilitated the exchange of information and experiences. Interactivity was the main factor that affected its integration into the module.
2. The instructor's interactivity was the main agent that directed the learners through the blog's technology.
3. The learners fully supported the idea that they should become involved in this project, i.e. blog incorporation into modules. Moreover, they highlighted a few points that would make the activities more effective or rather more attractive to them. These issues will now be discussed.

- Interactions between the participants could be negatively affected if the content of the blog did not originate from trusted sources (not documented as referenced); especially content that came from different websites. I6.W14.S2 said,

"I rely on trusted sources only and the official sites."

- The value of the content was important as most learners had concerns regarding reading, exchanging and sharing their experiences. Singularly, I6.W14.S1 was concerned that some content had been posted or commented upon simply to raise the participation rate of some of learners and not to add value. He said,

".... that my participation was less because I found that most of the topics are copied or pasted from other websites.....so I am feeling that my interest being less than when we started but I am adding comments"

- Blogs provided the space that enabled learners through their interactivities to contribute knowledge. Their ability to make meaningful contributions gradually

increased with time and practice and by the discussion of a few subjects. The above learner said,

“I remember when we started the blogwe had ideas, which we presented together through our blog, and our ideas were new, further, with the time, the interaction with the outcome makes every idea mixed with new thoughts and so on, new analysis figured.”

- A blog is a friendly use of web services. The learners claimed that engaging with a blog is technically simple. Its protocols are easy to follow. With regard to this, I6.W14.S2 said,

L: “Do you think that the blog, from the technical point of view, has been an obstacle for you or for learners?”

S2: “Just in the beginning, by time found it not difficult ... not need much skills, and easy to follow”

- 16. W14.S1 believed that whatever a learner’s age they are likely to be motivated and that desire would encourage learners to become more active in the blog. He said,

“If the teacher provided new information, the subjects itself, thanking and praising what they (learners) present could increase the interaction.”

Considering everything, the findings showed that the interviewees believed that sharing information and experiences proved to be the most attractive attributes of a blog. Nevertheless, interactivity was the essential key that empowered the instructor and enabled him to customize, control or direct the learners’ interactions. Interactivity, however, was found to be affected by a few issues. These issues related to the following:

1. The motivation that the instructor provided to encourage learners to interact.
2. Managing the blog, i.e. by adding a few general rules
3. The nature of the posts and comments issues, i.e. avoiding long posts.

8.4.4.2.2 The Seventh Interview, Week Seventeen, 1 learner

For first time, a learner expressed the view that blogs were unattractive when he participated as part of a group. The learner much preferred to have his own blog but did not give a reason for this choice. I7.W17.S1 said,

L: "What do you prefer, to share with a group or to go own your own blog in education?"

S: "I would go with, own one."

L: "Why?"

S: "I do not know why but that is my feeling. I think I have a class in ten minutes."

He also expressed minority opinions on some other issues, For example, he felt that blogs were no different from other website services, such as, 'mail group' or Facebook in practical terms. He argued that interaction through blogs is practically same as other websites. He believed that blogs in terms of introducing new tools is acceptable and it is a good idea to use them but they (blogs) are not very efficient. He said,

"....blog is wonderful when you are finding posts in line with your interests but I find it not that especial than other web interactions, such as, mail group or Facebook. So I would say it is good but not much efficient."

In spite of that, there remained the possibility for him to use blogs with other learners when he qualified as a teacher. In addition, he claimed, based on his experience with blogs in this module that they are suitable for use in higher education, i.e. from high school onwards. Furthermore, he argued that the learners below this level would be unable to understand the issues involved in replying, how to interact and comment and posts thoughts. He said,

L: "If you got the chance, would you use it with your students?"

S: "Yes, it is possible to use it with students at university, as it is easily to manage. I applied mail group (email) with the students. And I received a great interaction."

One can understand from his statement that 'email group' and 'blog' are same; however, the interviewer remained neutral upon this issue. The interviewee repeated by saying

"Nothing in my mind." Or, "I do not know why but that is my feeling."

This led the researcher to understand that the learner did not want to give a statement because it would be negative. It seems that he did not want to demonstrate to the researcher that he was unable to appreciate fully the full picture.

The learner, however, showed a positive attitude toward blogs but lacked confidence, which was portrayed in the way his opinions vacillated, for example, he said,

"Blog in education is excellent for certain classes." After a while he said, "But I find it not that especial than other web interaction."

He also argued that blogs should be structured for a number of reasons. This is because at the beginning of the course some learners did not know how to use them academically, how to interact, what to write and how to write a reply. Another reason he proffered was to prevent unsolicited behaviour, such as, copying and pasting from other websites. With regard to that, he said,

L: "In general, before we start using the blog do you think, there should be instructions on how to use it?"

S: "Yes, there is a big number who don't know how to use. As well I have notice that some students just copy/paste from other websites, which was not an attractive method to use."

To sum up, some of his opinions were similar to those of other learners while other ones were at variance. Moreover, he expressed complex opinions regarding blog interactivity. He seemed to lack the confidence to express a positive attitude. Furthermore, he agreed that blog usage would be better if there were general rules or

structures that would act as guidelines for learners when they engage with blogs. He continued by saying that he would make blogs more efficient to use.

This learner clearly expressed a minority opinion in terms of believing that blogs were the same as any other website and that they are not something new for activities, such as, communication with learners. This learner, therefore, held a diversity of opinions regarding the use of blog tools.

8.4.4.3 Observation from 11th week to 17th week

This section describes the data that was collected from eleventh to seventeenth week. It includes most of the interactivities of learners, describes their posts, comments and opinions. All the information was gathered from learners' conversations concerning blog interactivity. Furthermore, it includes some figures and chart analysis of the content of their blogs, i.e. nature of their comments and posts. Further, it includes the findings for some of the comments received from three learners regarding their opinions about blog activities.

8.4.4.3.1 Learners excited

The rate of learner interactivities increased with time. Descriptions of learners' excitations (interest) can be divided into two main parts (groups).

The first group describes the excitement of the learners who continued to share their opinions and experiences by posting and commenting so making a valuable contribution toward content. Moreover, they maintained the same level of activity. From fifty-eight posts and eighty-nine comments, positive attitudes were provided via their interactivities. The learners showed a positive attitude toward the blog; some of them utilized it during school practice. They believed that blogs possessed very exciting tools, which stimulated sufficient interest for use in the learning environment.

During the researcher's conversations with the class, a few learners claimed that a blog was a very good internet service when one wanted to expand one's ideas and knowledge, particularly when the subject was not directly related to the module's syllabus. Furthermore, a blog provides opportunities to discuss diverse topics and that proved a very valuable feature. One learner said,

“Discussing different topics through a blog, mostly, enriches our knowledge as long as it is related to our module's subject. Also it is a good opportunity to read others' thoughts.”

As mentioned in section 8.3.2.3.1, learners during the middle of the study became more excited. This occurred when there was interaction with the instructor. This phenomenon is relevant here but at a different level of expression. Some learners stated that instructor interactivities are important as they engender encouragement.

The second group concerns learner interest with blogs with reference to their perceptions of the pros and cons of blogging. This group preferred to contribute rather than adding short or complementary text to the blog. These learners were more interactive compared to the first group, i.e. sharing their experiences or adding contributions. In addition, there is the issue of whether their participation ought to be rewarded by awarding marks but if not then benefit could accrue from what they gained from blogging e.g. increased knowledge.

It is important to mention that the number of posts and comments were less than the previous period. In general, the learners had become less inclined to interact through the blog. This emphasised the importance of communication not only between learners but also with the instructor, since during this period the instructor became less interactive. Some learners acknowledged the significant impact of the instructor's interactions. It was found that a proportional relationship existed between instructor activities and learners' reflections, for example, when the instructor became

interactive by posting comments, the rate of learner activity increased. One learner said,

“You used to give more instructions to us in last few weeks through blogs. Now we did not see that, the learners whatever their age is, needs to feel that the instructor with him and showing his presence otherwise they will be less active and showing less enthusiastic.”

Several issues have been found that could affect learners' excitations toward utilizing blogs. These are mentioned in the few next points.

1. The main point was that there was a decrease in interactivity seen by a sharp fall in the number of posts and comments between the participants. This was regardless of the quality of blog content. This showed that learners were now less excited about comparing the results of their blog activities compared to first and the second action cycles (see sections 8.2.1.5.1 and 8.3.2.3.1).
2. Some learners continued their activities in order to present their positive feelings ‘*attitude*’ by participating through blogs.
3. Only a few learners indicated that excitement was less because no marks were awarded for these activities. That made them saves their efforts for other modules of the course.

In addition, all learners agreed that blogs still excited them despite decreased participation during this period. They still believed that blogs as a new technology were very exciting. This belief, however, did not reflect upon their actions through the blog.

8.4.4.3.2 Blog activities - post and comment issues

Fifty-eight posts with eighty-nine comments represented the learners’ activities during this cycle. (See Table 18 for more information). The number of postings and comments sharply decreased compared to the second action cycle (see section 8.3.2.3.2). In addition, during this period, the researcher was less active. For example, discussions involving blog issues with learners were less compared to the second action cycle (see section 8.3.2.3.2 for more information). During this time (weeks eleven to twelve) the majority of the learners, including those with low interaction

rates showed a satisfactory level of participation with the blog. Learners' posts and comments were examined with reference to their degree of creativity.

	Posts	Comments
Week 12	55	80
Week 13	1	8
Week 14	1	1
Week 15	1	0
Week 16	0	0
Week 17	0	0
T	58	89

Table 18: Number of posts and comments from the 11th week to 17th

With regard to the last statement, one learner indicated the importance of the role of the instructors 'reply' to some posts. This learner surprised the researcher when he said,

"Your interaction is so efficient for the learners; some learners were following your reply to any post that would make them understand and know what attracted you in that post."

The main reason for the sharp decrease in the number of posts and comments proved to be that the learners were focusing upon finishing their tasks and coursework that formed part of the formal assessment for this as well as other modules. It was, therefore, understandable that blog activity sharply decreased. A second possible reason could be the decrease in interactivity by the instructor. The second reason may be more probable than the first owing for the following reasons.

1. Only a few learners disagreed that interactivity with the instructor through the blog is very significant. Interactivity encouraged learners and gave them a good feeling. One learner said,
"Your comment is very valuable."
2. At the end of the research, some learners gave the researcher extra feedback regarding their experiences of the blog, which appeared to contain significant comments concerning the impact of the instructor's interactivity upon the learners. This comment will be discussed in detail.
3. The finding of the sixth and seventh interviews (see section 8.4.4.2.1 and 8.4.4.2.2) showed that learners are aware of the instructor's

interactions, i.e. posts and comments. They claimed that the interaction and communication with the instructor mostly affected the learners' actions and behaviours through the blog, regardless of whether they followed him to gain knowledge or to give a positive impression.

Some learners stated that they would continue to be interactive through blogs after finishing the exams and the assessments. No such interactivity has been recorded.

The high rate of interactivity via postings and comments during week eleven (from 102 posts and 136 comments) decreased (to 55 posts and 80 comments) by week twelve. The high number in week eleven was the result of the rules that has been made during the second action cycle (started in week twelve) (see section 8.3.2.3.2). Furthermore, from week eleven the instructor became less active and stopped summarising and presenting learners' comments in posts to the class. This was opposite of what was done during the second action cycle. The aim was to observe the impact after the increase in the number of learner activities through the blog.

8.4.4.3.3 The Nature of the content

The majority of content consisted of short comments (one-third of the total comments). This was followed by '*sharing own experiences and opinions*' while the lowest numbers of content was for presenting '*new ideas*' and '*discuss same posts subjects*' (for more details see Table 19).

Indicator	Example	N.
Discuss same posts' subjects	“Unfortunately, all what you mentioned is true, we have to ...” 4/1/2011 “In regard to that, I see Saudi Arabia experience with some project....”6/1/2011	6
Complimenting, expressing appreciation	“Thanks for these great posts.” 2/1/2011 “Thanks for this post; it is clear that will be benefit.” 2/1/2011 “Thanks Mr. Riyadh, for this information.” 4/1/2011	12
Asking questions	“What is the difference between analysis of current scenarios and to build base on the goals?” 4/1/2/11 “Are all the schools having technologies to adapt it such your suggested?” 3/1/2010	8
Short comments	“Determine the level of the learner, which will be value.” 2/1/2011 “It is true, programming in education need to be more specific.” 3/1/2011	25
Present new information	“I would like to add few things regarding this posts, which are ...” 2/1/2011	3
Add new ideas related to the posts content	“Perhaps these steps that I mentioned in my mind, they fall under the umbrella.” 2/1/2011 “The definition of e learning not commentated in this posts as...” 3/1/2010 “It is true, some of this obstacle are...” 4/1/2011 “I have few issues would like to add here...” 2/1/2010	9
Sharing own experiences, opinions	“I have been attend same experience, which I found that created a successful and environment...”3/1/2011 “It is important to determine these times for training course as it is will...” 4/1/2011 “I think the rules playing is the main issues...” 2/1/2011 “I do not think it is a matter of experience when adapting this technology...” 7/1/2011	19
Quoting other posts e.g. repeat same content	“It is true, will be effective in terms of ...” 2/1/2011 “I am agree with you that...” 3/1/2010	7

Table 19: The nature of comments from week 11th to 17th week

Despite the significant decreased of posts and comments compared to the previous period, the learners' reflections shown in class represented a positive attitude. The learners direct reason for the decrease seemed to be that they were spending their time on other activities, e.g. for finishing tasks and coursework for assessment (see section 8.4.4.3.2). Nevertheless, the findings showed that most learners preferred to take a long time over preparing content for a contribution, which could be one justification of that strong decline in interactivity through the blog.

Based upon conversations with the learners regarding the blog outside the class, their perceptions regarding their actions in the blog can be divided in three different groups.

1. First group: they liked the experiment. They just enjoyed adding posts or comments regardless of any other issues, e.g. diverse types of posting and comments, transferring from other websites etc.
2. Second group: They simply did not enjoy participating in principle but they had a good attitude. Furthermore, for them, it was fine to participate whenever they had the time. They freely admitted that the blog was a great, new idea and offered beneficial services over the internet but that it did not give them enough time to spend on coursework on which they will be evaluated.
3. Third group: they are naturally interested by any new technology, especially with respect to internet tools and services. They participated because it is a new service. In addition, this reason is probably based upon their interest in the posts to which they added new information.

Overall, the nature of the content changed compared to the first and second action cycles (see section 8.3.2.3.3). In addition, it seemed that the learners tended to participate with less effort. This is shown by an increase in the number of posts with short comments and by addition of compliments that express appreciation via texts. Other evidence for content changes includes the use of multimedia e.g. pictures, videos and hyperlinks, which decline significantly.

In conclusion, it seemed that the nature of the content did not reflect the attitude of the learners but it gave an overview of their behaviour, that is, they sought to be comfortable with in the terms of their priorities, i.e. saving their efforts for the formal assessment tasks.

8.4.4.3.4 Reflections regarding instructor activities

Learners recognised that interactivity with the instructor is very essential. During this phase of the research, the instructor was significantly less active with the learners through their posts and comments. Summarizing and discussing learners' interactivities in class was discontinued. The aim of was to observe the affect of

maturation upon the activities that had been completed the last cycle, that is, action research cycle two (see section 8.3.2.3.4). In addition, during conversations some learners disclosed that each time the instructor presented and discussed their comments and postings it motivated and inspired them to continue to write and become more engaged with the blog.

8.4.4.3.5 Conclusion of Pre-data collection

During this period only a few issues were examined. The learners raised concern interactivity. Interactivity is an important factor that may lead to other learning constructs, e.g. a learner may believe that interactivity leads to building constructive knowledge. For example, the learners indicated the importance of interactivity as it enables communication, sharing, exchanging experiences and information and acquiring knowledge through the blog. All these types of exchange skills occur constructively during blog interactivity. The data showed that there was a relationship between the interactions and the participants in the blog, especially between learners and their instructor. Furthermore, the findings showed that there was less learner interaction when the instructor communication less.

In addition, some learners asserted that interactivity is the only imperative that made them become active. Some learners followed the interactions of the instructor and tried to align with him through the blog, e.g. they interacted at same place in blog where the instructor added comments.

The second main issue was based on the learners' demands for adding extra credit to the final mark for the modules.

8.5 CONCLUSION

This chapter highlighted the three action research cycles that were implemented during this study. It described their progress throughout the empirical study. It

included the data collected during process and its findings. For each stage the results were presented and evaluated.

Each cycle had its own explanation, which included its plan, actions, evaluation, data processes and findings. The learners' interactions, thoughts and communication issues were presented and discussed for each cycle. The observations, blog content and additional data were analysed and conclusions drawn. The effect of instructor intervention throughout the three cycles was discussed and analysed.

This chapter outlined the pre- and post- attitude questionnaires and the factors that influenced learners' perceptions due the implementation of blog tools at the three different stages of the study. In addition it identified and transformed learner perceptions, feelings and opinions into variable concepts that were raised throughout the study. The chapter also focused on giving a detailed description of the structure, monitoring and evaluation that was used during the three action research cycles and as a result various and diverse issues were discussed.

The pre-attitudes of learners were considered within '*skills*,' i.e. dealing with blog tools and '*benefits*,' i.e. advantages of using blogs within the learning environment. These are two main factors that were found to affected learners' attitudes. After gaining experience in the use of blog tools for seventeen weeks, learners' concepts changed to become the '*features*' of the blogs, e.g. '*ease of use*' and '*tools value*', with '*communication*', which enriches the way for sharing and exchanging experiences.

The data analysis of the observations, content of the blogs with the pre- and post-factors demonstrated the valuable effect of the '*interactive*'. Interactive is a word that included all acts carried out, upon or with other participants through blog tools. In addition, it identified and addressed some resentment and satisfaction issues presented

by the learners brought about by their various acts and behaviours throughout the study.

The next chapter will discuss these findings and examine the outcomes of the all-embracing data, results and issues that have arisen during this study. A final theory of the factors that affect the implementation of blog tools in higher education to include the final attitude perception of the learners will emerge.

9 CONCLUSION DISCUSSION AND RECOMMENDATIONS

The previous chapter described and discussed the processes involved in the action research cycles and their findings. This chapter discusses the research's conclusions, to what extent they address the research questions and the relationship between the results and the literature reviews with respect to the research context. Further, the current chapter evaluates the research's contribution to knowledge, its limitations and makes recommendations and suggestions for future research.

9.1 RESEARCH AIM AND QUESTIONS

This research investigated the main issues and factors that influence the implementation of web 2.0 via blogs in higher education. It achieved this by utilising established theories and the work of others that was obtained from a review of the relevant literature. This assisted in building a framework for this research. Selected empirical studies, conducted by other workers in the field, which followed qualitative research, were reviewed. Action Research with adapted multi-instruments was used for the empirical study. The research questions were answered as follows.

9.1.1 ANSWERS TO RESEARCH QUESTIONS

This section provides the responses to the research questions as outlined in chapter 1 of this thesis

9.1.1.1 **Research question one: What is the potential utilized by eLearning via web 2.0 via blog tools in learning environments in higher education?**

Some of these potentials were clarified in chapter 1 and 3, which described a selection of few empirical studies by other workers. Furthermore, this study concluded that web 2.0 via blog tool implementation has the potential to be utilized by learners and is

very suitable as an eLearning asynchronous communication approach in higher education. (for more information see chapter 2, section 2.4.5). This conclusion is supported by Ferdig and Trammell (2004) and Herring et al. (2004), contrary with the results of (Liu 2009; Divitini et al. 2005a). In addition, this type of Internet service via blog tools enhances the power of communication between learners, information and instructors; more particularly, it supports *student-teacher-interaction* and *student-content-interactions*. This aspect was discussed in chapter 3, section 4.6 in point iii, and Figure 12 in point 3 (Kang et al. 2011; Garrison and Anderson 2003; Moore 1989).

Additionally, interactivities through blogs increased learners' abilities by developing their critical thinking and writing. Analysis of learners' blogs made this very clear by the observed improvements in the quality of content and their style of writing with respect to the criteria of the elements of Bloom's Taxonomy (see chapter 4, section 4.4.1 in Figure 8) (Bloom et al. 1984). A comparison of learners' posts and comments observed in the three action research cycles (see chapter 8, sections 8.2.1.5.3, 8.3.2.3.3 and, 8.4.4.3.3 demonstrated:

- 1- The nature of the contents provided by learners with respect to comments and interactions of *complementing, asking questions and adding short comments*, decreased in the second action research cycle compared to the first one but at the same time;
- 2- There was an increase of additional content, which tended to consist of *new information, ideas and sharing thoughts* in the second action research cycle compared to the first.

This suggests that constructed activities via blogs have the potential to improve and support a learner's intellect to enhance their critical thinking (see chapter 4, section

4.6 in point i). From another viewpoint, with respect to Bloom's Taxonomy, virtually in all cases, learners' responses were transformed from reflecting upon their *remembering and understanding* to being able to analyse and compare what they received through blogs and to interact with their experiences and evaluate the thoughts of others. This was enhanced by cooperative learning via a group. In other words, learners moved to a higher level of thinking skills (Churches 2009; Forehand 2010).

The increase in blog content, noted during the empirical study, which supported learners' intellectual skills, relied on their previous experience and knowledge (see chapter 8, section 8.2.2). This result is supported by Boud in his Model of Experiences (see Figure 9, chapter 4 in section 4.5.1). It is Boud's opinion that any new information is mostly rooted within a learner's previous experience (Boud 1994, p.51). Thus, knowledge is accumulated and constructed by contributing and sharing blog content (see model in Figure 12 in chapter 4) (Fosnot 1996). This model, however, does not identify the culture effect upon the acquisition of higher thinking skills with respect to a person background and this factor needs to be taken into account.

9.1.1.2 Research question two: Can web 2.0 via blog tools be developed and utilized effectively to cater for the requirements of Saudi Arabian universities?

It is very clear that the answer is yes but educators and decision makers should note a few issues when they want to integrate blogs into higher education as an option. These issues together with the main result of this study would make blogs more effective when using them. These issues are described below.

-
- Web 2.0 via blogs is very efficient if utilized effectively. It is considered a very easy tool that does not require the provision of a formal course to teach its use and understand it [technically]. A few learners felt that in order to gain the required skills and understanding a course of formal instruction was required. These learners, however, with practice soon became proficient users and diverted their attention to how to gain benefit from the system, e.g. turning from concerns about ‘can do’ skills to those that are required to deal with blog content as shown by the pre- and post -attitude measurements (see chapter 8 sections 8.2.1.1 and, 8.4.3, in Figure 23 and Figure 24).
 - The instructor encourages, in an indirect way, learners to participate by providing feedback and responses to learners’ interactions and inquiries via blogs (will be used in answering following question). Learners became more interactive when the instructor became involved and interacted with them (see chapter 8 section 8.4.4.3.1). The degree to which this phenomenon is significant depends on the context to be learned, which directs the application of a particular type of pedagogy. For instance, when learning needs to support building a *cooperative learning environment* via blogs, the instructor is one of the main keys to be involved, e.g. to encourage learners to participate and interact.
 - This research demonstrated that blogs are suitable for learners in higher education in Saudi Arabia to use. Guidelines, however, should be introduced for their efficient use. These guidelines should not be enforced or demand that learners contribute. In this study, learners refused to follow an instruction that required them to post a certain amount of content, e.g. the pilot study

conclusion (in Alhojailan 2012 study). Allowing learners to choose and negotiate and build rules will have a very positive effect their engagement.

9.1.1.3 Research question three: What are the learners' attitudes toward utilizing web 2.0 via blogs within their learning environment?

Learners' attitudes with utilization of web 2.0 via blog showed mixed details and resulted during the empirical study, it was possible to compare and contrast those pre-post- and overall as follows:

- a- Learner responses prior to experiencing blogs mostly focused on their positive expectations. It was something they wished to gain despite their lack of knowledge of how to use blogs generally. The issues, the learners considered were those that could affect their attitudes. These were: (1) *skills*, i.e. what type of skills are needed to use blog for educational purposes (2) *beneficial*, i.e. whether blogs are useful or not, in other words, what are the Pros and Cons in relation to their knowledge and subject (see full variables linked in Figure 23 in chapter 8, section 8.2.1.1 with its statements). With regard to these two questions, some learners indicated their lack of personal knowledge in terms of whether they possessed the necessary or appropriate tools to utilize blog services. This was linked mainly to their level of education, for example, how to choose a topic to communicate with others or what is the best action to perform. Thus, their thoughts, due blogs, had been changed,
- b- After 17 weeks of engagement with blogs, a total of 267 interactive posts and 473 comments had been accumulated. The attitudes of the learners were mostly positive but in two conceptually different ways. Firstly, there was a

positive attitude toward the acceptance and utilization of blogs but with certain caveats. Blogs had to enhance learning and support communication. Secondly, there was a positive attitude supported by a justification. Generally, ‘*features of blogs*’ and ‘*communications*’ were the important factors that could affect learners’ attitudes with its related variables but the main issue considered by the learners was the interactivity between participants (see following figure).

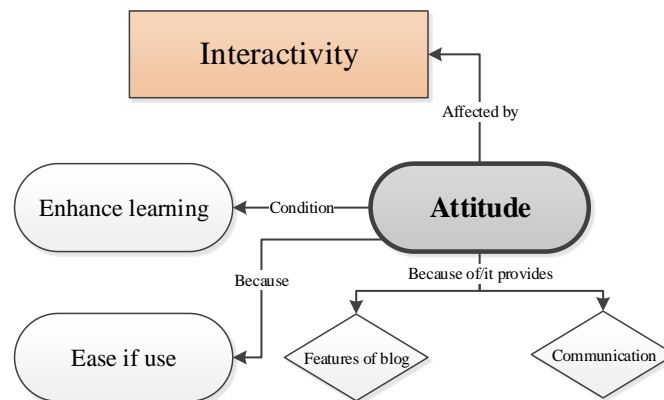


Figure 43: Final attitude result of learners due usage of web 2.0 via blog usage with its variables

The attitude of learners waxes positive because of efficacious blog features and communication, as well as its propensity to enhance learning and its ‘*ease of use*’.

- *The features* of blogs considered by learners were the ease of use of its tools, updated information through blogs, comments, valuable content and tools’ value and engaged at any time and in any place. Learners felt that all these features make blogs a tool that significantly enhances learning. For more information regarding blog features see chapter 3 in section 3.2.
- *Communication* activities via blogs enable experiences, ideas and thoughts to be shared and to improve knowledge. All these attributes, however, were affected by learners’ motivations (see figure 8, in chapter 8.4.3 and, 8.4.4.1.4). Moreover, blog services

presented a good way of supporting communication between participants, especially between learners and instructors through content (see previous discussion).

The two conditions and causes that led learners to accept the use of blogs were as follows:

1. ***Enhance learning***: Learners were aware that enhanced learning could come from two perspectives. (1) Determining the '*basic rules*' for blog usage but not restricting learners from posting what they need [freely] with respect to their subject modules (see chapter 8 section 8.3.2.3.1) and (2) the '*benefit*' of blogs should be related to the subjects of the course syllabus. i.e. what are the pros and cons they may experience (Conole et al. 2006)
2. ***Ease of use***: Derives from of three main points: (1) Blogs do not need skills for their use [technically] (2) Blogs are flexible in terms of moving between posts and comments while incorporating additional activities, e.g. adding hyperlinks and multimedia. (3) Blogs allow accessibility to other resources and information (see chapter 3 section 3.3.1).

The above two points, could be linked to the TAM model (see chapter 3 section 4.6, in point V). The behaviour of learners when they engaged with this technology was affected by two main factors that are found in this model, i.e. Usefulness and Perceived Ease of Use (i.e. PU and PEOU). These two factors have been extracted from learners' attitudes associated with the current research. The '*beneficial*' factor is viewed as a positive one while *ease of use* makes the technology great to accept and develop a positive attitude to the use of blog tools within a learning environment (see chapter 8, sections 8.2.1, and 8.4.3).

In addition, learners' cultural perspectives affect some of the attitude variables, e.g. learners were very conscious of the feedback and interaction of the instructor about their blog activities more than any other variables. This emphasised the importance of the learners' culture backgrounds. Here the instructor is seen to be central to the process of interaction during learning (see chapter 4, section 4.6). The TAM model ignores the culture factor that affects the use of technology (see chapter 4, section 4.5, 4.6).

9.1.1.3.1 Positive attitude

All in all, almost all the learners tended to provide an optimistic and positive view based on their experience and expectation of the system (see chapter 8 section 8.2.1.1). Nevertheless, a few issues arose during the analysis with regard to the theories the research used and 'unsolicited behaviour' when using the blog, which could affect learners attitudes and interactions. They are summarised below.

1. Learners' attitudes changed after using blog tools (see the differences that resulted in learners' attitudes in Figure 23, Figure 33 in chapter 8. This supports the claim that learning is an active process, which if integrated with eLearning provides environments that encourage collaborative learning between peers to occur (Solomon and Schrum 2007; Ullrich et al. 2008). Additionally, learners' principles changed. These changes appear to develop cumulatively over the duration of the research (Von Glaserfeld 1990). This is one main key characteristic of Constructivism Theory (see chapter 4, section 4.5), which is identifying the constructive principle that is associated with different activities and experiences that the learner could gain within his individual perspective (see chapter 4, section 4.4).

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2. With respect to the Boud Model, practical experiences gained through the use of blog tools played a major role in reforming learners' opinions and ideas. Furthermore, the research confirmed that web 2.0 via blog interactions supports and encourages learning founded on constructed knowledge, which considers culture its main aspect and, therefore, could affect learning process via technology. Thus, the attitude of learners affects their acquisition of knowledge, their ability to make sense of their learning environments with respect to their courses and of their learning activities by providing content and information via blogs, e.g. sharing and exchanging experiences via content Lin et al. (2006). See the second paragraph in section 4.5, in chapter 4 (Fosnot 1996; Almala 2006).

 3. Regardless of the different kinds of activities via blogs, most learners agreed that interactivity was a very valuable concept that would make them use blogs [their attitude] if they were exposed to them again (more information in the following answer to question four). Interactivity is a measure of how much learners and instructors engage with one another during the learning process to exchange knowledge, ideas and experiences. Furthermore, interactivity encourages learners to contribute so that they became engaged and participate in the learning process (see chapter 8 sections 8.2.1, 8.2.1.3.3, 8.2.1.3.6 and 8.3.2.2.1). This was especially the case when interactivity was originated and continued by the instructor during the second action research cycle. It suggests that the cultural backgrounds of the learners play a major role. As explained in an earlier chapter, instructors in Saudi Arabian education systems have a powerful impact on learners within their classrooms in terms of learners' visions and different styles of interactions that may be presented in the

learning environment (Moore 1989). The instructor being central assists learners' interactions via blogs. This type of learning environment emphasises the degree of control and responsibility of the instructor who follows this style, i.e. '*Student-teacher-interaction*' (see section chapter 4 section 4.6 in point iii). This perhaps explains why learners in this research were more willing to participate when the instructor was more interactive (see previous section 9.1.1.4, second paragraph, with Figure 44).

4. After the first action research cycle, learners preferred to post original rather than content copied from other websites, at least where a major subject was involved (see chapter 8, section 8.3.2). Furthermore, learners rejected posts unrelated to the module's syllabus. It seemed that they were only interested to receive content that had been evaluated by the learners themselves and associated with their objectives. There was a spontaneous tendency to become involved with a learning environment that used web 2.0 via blogs where the educational environment that was represented facilitated analysis or evaluation.

9.1.1.4 Which theoretical model and factors are appropriate for web 2.0?

The answer to this question is that the model must address the main factors that affect the implementation of blog tools including their interrelationships. The research shows *Interactivity* is the most significant factor that affects the implementation of blog tools in higher education. *Interactivity* refers to the interactions that been observed during the empirical work of this research through blogs, i.e. posts and comments between learners and instructors. The major interaction that affected

implementation was the student/teacher one. This demonstrates that the teacher is responsible for the management and encouragement of the students for the activities.

Despite the diverse responses that were obtained during the empirical study, the main factors and their associated variables that influenced and affected learners' views of their skills, knowledge and attitudes toward their use of web 2.0 via blogs were identified in Figure 43. '*Interactivity*' was considered the main factor that affected and influenced the concept behind five variables, i.e. '*enhancing learning*', '*transferability*', '*Attitude: cause of the feature and the communication*', '*content*', '*motivation*', '*enhancing learning*' and '*transferability*'. An analysis of the multi-data collection findings (see data multi-phrases in chapter 7, section 7.3.7) with respect to teacher communication and interaction and the observations that were made see chapter 8 sections 8.2.1.5, 8.3.2.3 and, 8.4.4.3) show that *interactivity* motivates, encourages and enhances collaborative learning between peers. Figure 44 shows that learners contribute more, i.e. through posts and comments, when instructor participation is increased. In the second action research cycle, the instructor became more interactive and, therefore, more directly involved with learners' interactions. Because of this intervention (see chapter 8, section 8.3.2). Learners' styles for presenting ideas and sharing information became more critical and evaluative (see the earlier discussion on the etiquette of the first question).

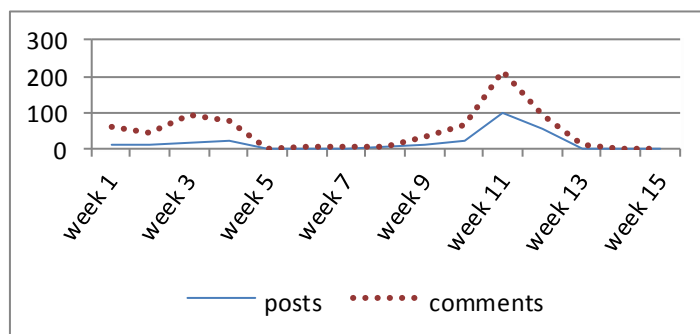


Figure 44: Increase in the number of posts and comments after the second action research cycle to almost 200 comments

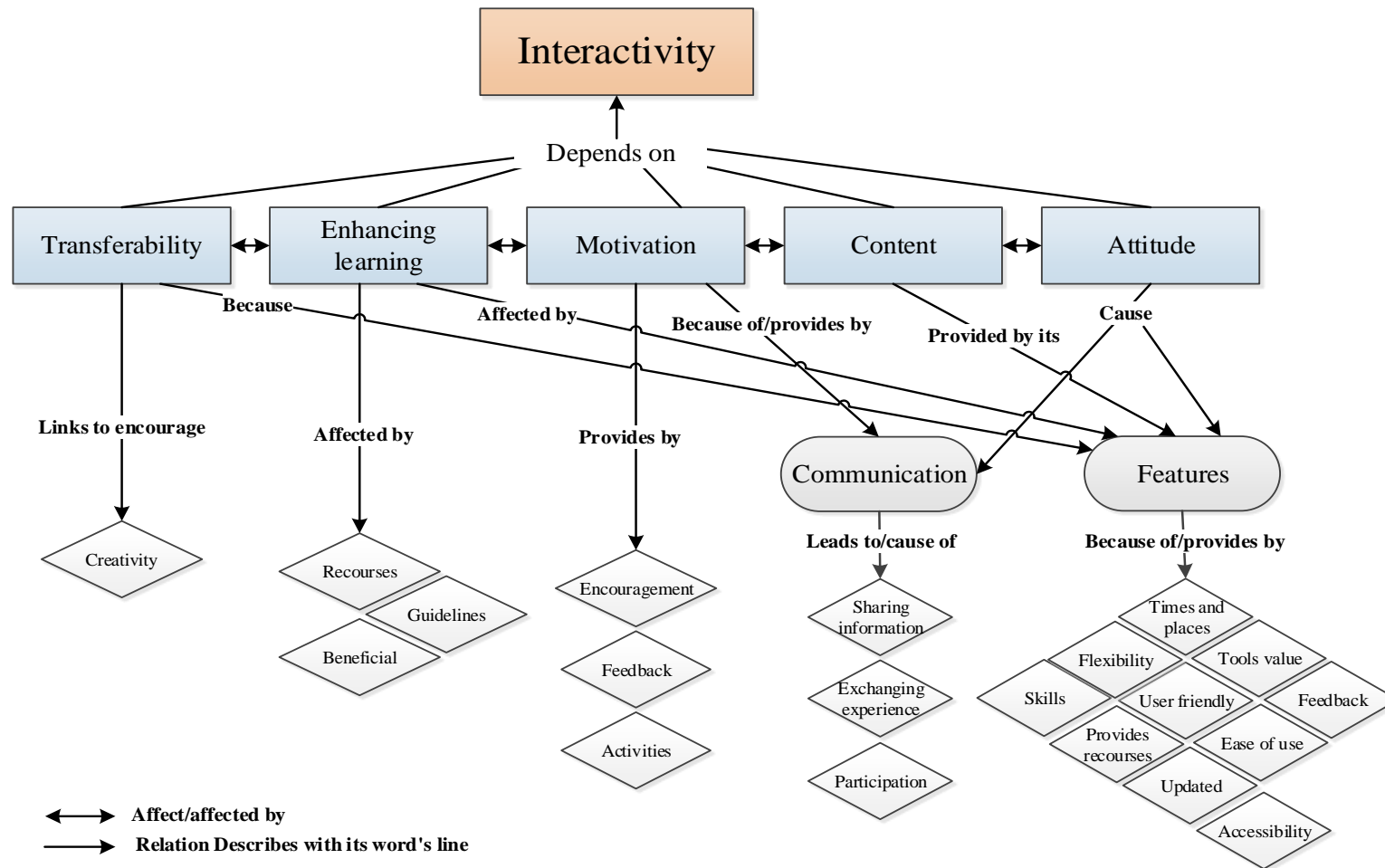


Figure 45: Developed model including the interrelationship of the factors that affected the adaptation of web 2.0 via blogs

Figure 45 (above) shows the end model for the implementation of web 2.0 via blogs in higher education in Saudi Arabia. The following table includes definitions for each main factor from a learner’s perspective.

Interactivity				
Attitude	Content	Motivation	Enhance learning	Transferability
Learners’ thoughts and perspectives regarding the use of blog tools within module activities	All content that was placed on the blog during the empirical study by learners and the instructor, including outside website content.	Learner encouragement through diverse activities during the empirical study	Enhancement of learners’ academic learning and achievements	The ease of the exchange and transfer of information, content, posts and comments between learners/learners and instructor/learners.

Table 20: The meaning of terminologies in the figure 54, from a learner’s perspective

Learners were found to occupy different stages on the model in terms of their interactivity. Students felt greater affinity for particular places and more compatibility with the model the greater their engagement with the blogs. Conversely, their engagement was less when there was no interaction, for example, when either the instructor or learners did not responded to posts and comments or were awaiting feedback. (more information, see chapter 8 sections 8.2.1.3.3, 8.2.1.3.4,8.3.2.3.4 and 8.4.1). Furthermore, it became very clear that learners did not effectively engage and respond to activities via blogs if there were no **student-teacher interactions or responses** and to a lesser extent no student-student ones (Moore 1989). As mentioned earlier in point iii in chapter, 4, section 4.6, interaction was very significant as it increased knowledge as well as the exchange of experiences between individuals. More particularly, it enhanced the process of learning in terms of providing multiple perspectives on diverse issues and raised the performances of learners (Muirhead 2004). As mentioned early in this section, the interactions that learners mostly sought emanated from the instructor, i.e. *student-teacher-interactions*, because learners believed this type of engagement would be the most motivating at the most adequate

encouragement manner to motivate them within learning environment are coming through the instructor (more information see section 4.6) (Garrison and Anderson 2003).

A number of factors affected the efficiency and usage of blogs both positively or negatively. They were *attitude, value of content, motivation, enhancing learning and transferability*. All are related and they affect each other. (see chapter 8, sections 8.4.4.1).

The attitudes of learners were affected by:

- A. **The features of a blog:** the ability to share and engage at any time and place, the ease of use with its valuable tool options (no need to learn and understand them), flexibility, no requirement for any extra skills for internet application, feedback provided and updated content.
- B. **Communication:** lead students to share and exchange information and by engaging the software. (for more information see in section 9.1.1.3).

In addition, the attitudes of learners were affected by their perceived value of the content that was provided. Learners sought enriched content that related directly to their course syllabus, which could be valued, trusted, enhanced their knowledge, current and previous experience. (For more information, see sections 8.4.4.1 in chapter 8). Furthermore, learners' motivation rose, which encouraged them to respond with more endeavor to others' interactivity and feedback via blogs. (For more information see section 8.2.1.2.4 in chapter 8). Increased motivation was viewed as a supplementary benefit, which came about because of individual communication through blog interactions.

The learning environment was enhanced if the activities, via blogs, offered and delivered:

- a. Guidelines that were compatible with the course syllabus
- b. Trustworthy resources
- c. Beneficial activities

The transfer of content via blog activities was affected if learners adopted a constructive approach to develop the content of their posts rather than ‘copy and paste’ content. This improved learners’ creativities. (For more information see chapter 8, section 8.2.1.2.5).

Overall, this study has identified and provided a deep understanding of the effects of using blog tools in higher education. Furthermore, it identified interrelated factors that explain in depth the current concerns of the learners when they use web 2.0 via blog tools. The major difference between the most common factors that were extracted from the literature review and their interrelationships that resulted from this study (see figure 2) is the depth of detail. This study, with its associated factors and their clear justification should provide a clear map that assists educators achieve efficient adaptation. Moreover, all learners’ behaviors, actions, and thoughts have been explained with respect to these factors. For example, most of the issues over variables have been concerned with learners’ attitudes and their relationship to other factors, such as the features of blogs, which have been explained and identified, contrary to the accepted view found in the literature review (see the discussion in chapter 3 in section 3.3.4), in terms of learners’ attitudes. (See chapter 4, section 4.7 and previous sections 9.1.1.3).

Important differences were found by this study. The research demonstrated the importance of each factor and related them to other ones in terms of their significance

while explaining their association with one another, the nature of their influence and their slander affect with a description and a justification, which was lacking in the literature that was reviewed. The most important factor was the one that influenced the integration of blog tools, i.e. interactivity

9.2 CONTRIBUTION

The aims of this research were accomplished (see chapter 1, section 1.1). The research provides via a literature review and an empirical study a deep and thoughtful inquiry into the practice of asynchronous eLearning (see chapter 3, sections 3.3.2, 3.3.3) particularly with respect to web 2.0 via the implementation of blog tools in the higher education sector. This aim has been accomplished and provides a clear model that includes the factors that influence and affect the implementation of this technology. Furthermore, learners' attitudes, perceptions, skills and knowledge have been comprehensively discussed both practically and theoretically (see above section 9.1.1.3). The evidence for this discourse was drawn from interpretations of the data collected through the three action research cycles that involved activities and interactions between the participant learners. In addition, the relationship and interrelationship between these factors has been successfully defined (see section 9.1.1.4 above).

This section has been divided into three sub-sections, i.e. contribution to knowledge, to practice and to theory respectively. Further, all these contributions complement one another as well as presenting a clear view of the final contribution of this research.

9.2.1 CONTRIBUTION TO KNOWLEDGE

- 1- As far as it can be ascertained, the literature reviews as discussed in chapter 2, 3, and 4 show that this research is the first to investigate and examine learners' perceptions and experiences from three perspectives and their interrelationships

at same time, i.e. attitude, knowledge and skills due to the implementation of web 2.0 via blogs and in addition determine how they are theoretically linked.

- 2- Saudi Arabian universities have the responsibility to provide training courses on how to integrate eLearning into learning environments. In addition, this research demonstrates the beneficial effect of web 2.0 via blogs, namely, improving learners' critical thinking and engendering positive attitudes toward the technology. This research, therefore, strongly recommends that academic staff to be encouraged to take the initiative and become informed about how to utilize web 2.0 via blogs in the learning environment. According to the Centre of eLearning at the KSU (see chapter 2, section 2.3.1.3), those training courses present different ways and methods linked to learning theory to provide support as this research has achieved.

9.2.2 CONTRIBUTION TO PRACTICE

- 1- By reviewing the current use of the web 2.0 via blogs for learning in higher education, this research offers educators, teachers and to some extent decision makers and other researchers, the factors and interrelationships that are involved with the attitude perceptions that influence the implementation of this technology. In addition, it illustrates the application's advantages and disadvantages. These can inform better utilization and further enhancements to the internet application. Nevertheless, the relationship between these relies on an interpretive approach.
- 2- The results of this research show that the use of web 2.0 via blogs enriches learning environments in higher education in terms of providing more opportunities with different variables and concepts. This finding, it is hoped,

would accelerate the incidence of the implementation of web 2.0 via blogs in higher education.

- 3- The literature review into the use of web 2.0 technology, particularly with reference to the provision for practical experience and processes that involve the use of blog tools, was found to be very sparse (see chapter 3, section 3.3.3 and 3.3.4. To plan the practical study, the researcher felt that the adoption of a particular methodology would make for a better understanding due to the many diverse concepts associated with pedagogies brought about by the introduction of internet technology into education, which is a very important measure of eLearning adaptation. This research contributes to the literature by filling a void in knowledge in this field in two ways.

- a- Firstly*, this research critically discusses, in literature review, the connection between the practical and non-practical literatures with respect to the issues that relate to the use of web 2.0 in higher education via blogs.
- b- Secondly*, this research links the results of the literature review with a theoretical review of the learning theories and models that were presented in chapter 4, section 4.7) by giving discourses on the incorporation of eLearning, i.e. web 2.0 via blogs in the practical research embedded within a theoretical basis.
- c-* This research is the first one of its kind to investigate the issues of eLearning, i.e. web 2.0 via its blog tools in Saudi Arabia from

practical experiences and theoretical perspectives (see chapter 2, section 2.3.1.2 and 2.3.1.3).

5. Instructors should carefully consider the benefits of applying theories about the implementation of web 2.0 via blog tools. It has been verified that the most important factor that affects learners and influences them to become more interactive and contribute are the responses and feedbacks from their instructors. , It is therefore strongly recommended that teachers be aware of the significant impact of their interactivity with learners, which will lead to the effective use of the technology.
6. Instructors should carefully consider the small details that may affect the successful implementation of web 2.0 via blogs and restrict the achievement of learning objectives, such as, will the course modules with blogs will be graded? Culturally learners follow what the instructor does, think and encourages. At same time, they have their own thoughts, especially about the external activities that may change and influenced their behaviour and discourage them from taking advantage of the technology.
7. To give wider understanding and reflect learners' perceptions due to the implementation of web 2.0 via blogs with different perspectives. The following practitioner issues has been resolved:
8. Most learners indicated that they preferred blog content to be related to the subject of their module's syllabus or relevant to their areas of interest. In addition, interactions through blogs show that at most ten posts that were received and interactively responded to via learners' comments were directly related to their module's syllabus and areas of interest (Appendix L).

9. Learners were cautious about the benefits of web 2.0 with respect to their module's syllabus. They were concerned whether blog content supported their 'formal' learning. Therefore, web 2.0 should be associated with module syllabus.
10. A learner sent the following statement to his instructor regarding his experiences due to the utilization of blogs after the course ended. It is cited as it typifies opinions and contains very valuable information that links with observation. The learners said,

"First, fort learner: at the beginning, I was unknown what the blog is, except knowing its name. However, after knowing the purposed and how much can do during our course and different way of the usage, especially after practicing. Now I do understand the value of blog. Nevertheless, regarding our blog, naturally, I do believe that everything new has advantage and disadvantage, the advantage I can see with our blog:

- I gain knowledge of the blog and purposes of it.*
- The important.*
- Practicing methods and how to improve it.*
- I gain benefit from the discussing during our posts and comment with my colleagues*
- Criticism from the teacher and my colleagues.*
- I gain experience with that."*

For me this was enough to cover any negative side for our practicing with the blog. Surely, one important side make it success in my point of view is the teachers' caring of our comment and posts, also putting some survey during the course it updated and improvement instead only posts and comment."

11. After first action research cycle, very few learners were aware that their efforts via blog would gain some marks that earned course credit. In addition, most of learners refused that because they wanted to make the participation easier and more convenient, probably because the characteristics of web 2.0 as described in chapter 3, sections 3.2 and 3.3 assert that the user (learners) tend to have or like

to act as their own administrator or controller. Learners may see that marking may affect their behaviour towards blogs.

12. One aim of this research was to acquire a better understanding to develop pragmatic evidence based learning methods. It is strongly recommended to utilize blog tools in learning environments to support diverse eLearning ‘asynchronous’ styles via web 2.0 blogs, i.e. support collaborative learning environments, encourage peer and individual learning styles via prepared activities, enhance communication and improve critical thinking skills by exchanging experiences (more information regarding these learning styles see chapter 4 , sections 4.6).

9.2.3 CONTRIBUTION FOR THEORY

1. By applying action research methodology, i.e. The Zuber-Skerritt (1992) Model (see chapter 5, section 5.9.1, in Figure 13) to modules structured by their syllabus in the pilot study and non-structure syllabus in the empirical study, this research found that the flexibility for processing different cycles of action research proved inadequate for structured model in the pilot study. The researcher had intended to develop and change the way of utilizing in blogs based on an evaluation of the first stream analysis. This, however, remained unobtainable because tutors refused to institute any changes, since the modules were structured with regard to how to use blogs [the amount of posts and comments were tightly determined] so it was very difficult to plan for the next cycle, which makes action research futile. In the main empirical study, the tutor was able to make change, which favoured the application of action research

cycles. Action research methods showed a high potential for use in learning environments when the use of technology is not prescribed, i.e. non-structured.

2. By applying Thematic Analysis, i.e. Miles and Huberman (1994) Model (in chapter 7, section 7.4.3, Figure 16). Thematic Analysis, however, shows a lack of investigative power in the field of humanities, more particularly, when analysing a subject involving IT (Howitt and Cramer 2007, p.333; Alhojailan 2012d). This research provides a suggested validated model that can be used by different research designs that make inquiry into the integration of technology in education (see the model in chapter 7, section 7.4.3.3 in Figure 21). This model appears influential for analysing evidence that is gathered at different stages during the action research cycles and it yields clear and different levels of extracted data.
3. Most of the concepts, i.e. points 1, 2 and 3 in chapter 4 section 4.7 in Figure 12 were evaluated and included in the theoretical model together with their related concepts. This assisted the researcher to comprehend blog integration by developing a theoretical understanding of learning issues with respect to learners' behaviours, e.g. appreciating peer and individual interactions and how to interpret learner behaviour due to the utilization of technology and more complex behaviour due to a particular style of learning. In same figure, in point 2, i.e. 'Importance of prior experiences and knowledge,' based on Boud's Model for Learning, (see chapter 4 section 4.5.1) was found to affect the study. In this study, learners' prior experiences were found to affect their perceptions. This was because blog tool usage could: 1) Demonstrate their level of knowledge and 2) Develop their knowledge because of their experiences when negotiating the

technology during the empirical study. Bloom's Taxonomy elements showed that activities through technology lifted learners from the lower to higher level of skills (see section 9.1.1.1 above). Furthermore, the social perspective in constructivism was found to be one of the main factors that affected the implementation of blog tools (see point 3 in section 9.1.1.3.1 above). Some learners' perceptions were affected by the cultural perspective, which was portrayed by some of their behaviours and actions during the course, e.g. their perception regarding their instructor's involvement tends to support the style of learning where the instructors are central to instruction process (see section 9.1.1.3.1, point 3 above).

Thus, the theoretical assumption applied to this model includes the three main theories i.e. behaviourism, cognitivism and, constructivism (see chapter 4 section 4.4, 4.5 and, 4.6) with the Model of Bloom's Cognitive Level Elements (chapter 4 in section 4.4.1) and Boud's Model for Learning Reflection (chapter 4 in section 4.5.1) assumed to work effectively to identify aspects of learners' knowledge, skills and attitudes based on the Theory of Perspective Integration.

9.3 RESEARCH EVALUATION

This section presents the criteria used to evaluate the qualitative research process. Four criteria can be used to address the validity of qualitative research for trustworthiness (Lincoln and Guba 1985) and these are discussed below.

Credibility: using a variety of sources from different parts of the research data renders the research believable. Further, previously conducted research, which is relevant and properly cross-referenced to ensure its quality and trustworthiness can be admitted

into the research (Guba 1981). Cassell and Symon (1994) claim that achieving credibility in qualitative research comes only when the “*Researchers show some sort of united front.*” (p.162).

In this regard, this research has taken the following steps, which are described below. Validate and evaluate each phase of the qualitative data collection process, e.g. validate the research process during the pilot study phase and for its analysis use multiple instruments (triangulation), i.e. questionnaires, interviews and observations for gathering same/different perspectives that follow Thematic Analysis using a validated model and procedures (see model in Figure 21 in chapter 6). In addition, see example for each one in Appendix M (more information in chapter 7, sections 7.3.5). Furthermore, the body of knowledge abstracted from the literature review relevant to the different stages of this research proved coherent. This assisted the researcher to evaluate each stage of the research and those sources that guided and elicited responses from the learners. In this research these two main factors evolved from the questionnaire, which relate to participants’ attitudes, i.e. ‘*ease of use*’ and ‘*usefulness*’. These factors are very relevant to the pre-analysis based on the assumption that originates from TAM variables, (see section 9.1, research questions three in point b-). In addition, the research followed the ethical approval that ensure the participants’ rights, e.g. the right not to volunteer and the right to withdraw at any time (see chapter 5, section 6.3.3).

Transferability: it is to make sure that each research has its specific characteristics, especially in interpretive qualitative approaches. It refers to the degree to which other researchers’ contexts are similar to this one (Denscombe 2007). Transferability is,

“To show how certain findings can obtain the same results when they are transferred to other contexts with similar properties.” (Halaweh, et al, 2008, p8)

This inquiry may be categorised as interpretive research that used Action Research methodology. The inquiry sought to identify the perceptions of a group of learners about issues within their learning environment. In this inquiry, Action Research was applied to three action cycles (see chapter 8, section 8.2, 8.3 and, 8.4). Each cycle has its unique process and data collection procedures, which would normally limit the research context (Costello 2003). This research, however, comprises details drawn from a variety of sources, i.e. a literature review to justify research methods and design, an evaluation of the data collection instruments, which offers an in-depth analysis for each action research cycle. Such an approach will allow the reader or other educators to follow and apply the same technology to their own research.

Dependability: The details of the different stages of the research were in-depth, defined and open to scrutiny. The research’s methodology is recognized as methodical and supported by referenced documentation. In addition, the strategies and approaches used together with each stage should be clarified and justified in-depth. This inquiry applied Action Research when in-depth information was essential. This was achieved by presenting a coherent and sequential analysis for each cycle in order to justify these processes in detail and apply a Thematic Analysis approach process to validate each stage with respect to its dependability (for more information see chapter 6, section 7.4.3.3, in figure 46 and, 47).

Confirmability: Ary et al. (2010) claim that researchers should use several strategies to avoid research bias, i.e. confirmability in Action Research must be considered neutral,

in another words, “*How do I [i.e. researcher] show results do not reflect my personal desires or biases?*” (p.529).

The strategies involved in data collection and the subsequent examination of the evidence should be well organised for analysis and available when needed. All these stages for managing the raw data, i.e. transcribing, transferring and noticing were described in chapter 6 and 7, in sections 6.4.1.3, 7.4 and, 7.4.3.2.2. Further, examples of evidence of the pre-and post- questionnaire, interviews, and observation notices are provided in Appendix M. Additionally, triangulation and accurate data recording occurred by utilizing four instruments for data collection (see chapter 5, section 5.9), furthermore, all data that had been recorded followed a systematic clear process for transcribing, translating and extracting involved inside and outside reviewers for validation (see chapter 6 section 6.4.1.3 and, chapter 7, in sections 7.4.3.2.1, 7.4.3.2.2).

9.4 RESEARCH LIMITATIONS

- 1- The sample population for this research consisted of a small group of post-graduate students from King Saud University (see sampling information in chapter 7, section 7.3.4) involved for one semester with blog implementation. The conclusions of this research, therefore, cannot be generalized to a larger population (Ary et al. 2010) . Additionally, similar studies could be conducted by other universities that have participants with the same characteristics and background with similar module syllabus. Generalisation, however, it is not intended by this research even if it is capable of being used by other inquiries or to utilize the theories and concepts that been described in this research. Walsham (2006) has a different opinion; he argues that access in terms of smallness of scale in interpretive research does not mean that the research cannot be generalized to other contexts. He said,

“As generalizations can take the form of concepts, theories, specific implications or rich insights.”(p.322)

Generalization could be feasible in spite of the fact that the research is small in scale or setting. Generalization is possible if four main elements are provided: (1) described from data, (2) theories from descriptions, (3) described from theories and (4) theories extracted from concepts. These elements are adequately represented in this study (Lee and Baskerville 2003 in Walsham 2006).

- 2- Interpretive perceptions through the action research cycles focused only on one group of learners who were engaged with one module during the empirical study (see chapter 7, section 7.3.4). Interpretive research beliefs about the perceptions of participants that are included in this research’s interpretation, however, limited the findings.
- 3- This inquiry used Action Research. Since the researcher engaged with an empirical study, bias cannot be ignored. Several approaches were adopted to limit it, e.g. triangulation for data collection, which enabled cross evidence and compared opinions to be obtained (see chapter 7 section 7.3.5 in Table 10), acknowledged, involved and used to prove schemes of data analysis. In addition, triangulation was used to evaluate the research’s design (see chapter 4, section 5.10) and engage external and internal interviewers to evaluate the different phrases of data analysis [see chapter 7, section 7.4.3.2.2]. Nonetheless, a degree of bias will remain in this research as it relied on interpretivism and the researcher’s interpretation is part of the research.
- 4- One of the limitations of this research is its failure to include the effects of decision makers to support asynchronous eLearning in the higher education sector in Saudi Arabia. As previously mentioned (see chapter 2, section 2.2.2)

support to integrate such technology usually starts and begins from top to bottom. Initiatives to integrate technology in education started after the approval of NCITP (see chapter 2, section 2.3.1.2), however, these decisions may hinder endeavours that encourage and support the use of this technology in education and so significantly affect its use in the classroom.

9.5 FURTHER RESEARCH

This research involved an insightful investigation regarding the implementation of web 2.0 via blogs in higher education in SA. Opportunities for further research in this field exist.

- 1- This research was conducted in Saudi Arabia in Riyadh, at King Saudi University. Further research could be conducted to investigate the perception of learners regarding web 2.0 in different universities in Saudi Arabia, e.g. Jeddah, Dammam and, Hail cities. The results of this research could be used as a basis to develop and improve the utilization of web 2.0 technologies via blogs within learning environments in HE.
- 2- With regard to action research methods, further research could be carried out into learning environments to clarify and investigate the nature of the relationship between applying Action Research to two different types of modules, i.e. structured (e.g. in pilot study) and non-structured (e.g. in empirical study) ones. This would provide a deeper understanding of Action Research process capability and identify possible ways to adapt it to future research in education when technology is engaged.
- 3- Investigating the insights and perceptions of academic staff and learners in higher education regarding the use of web 2.0 services could be done using a

quantitative methodology; in order to build a map that illustrates the advantages, disadvantages and understanding of the current situation and, therefore, it can be used to indicate changes for better utilization of web 2.0 for education. Further inquiries could use quantitative approaches to evaluate the interrelationship of the factors that are presented by this research. Statistical analysis may be useful in forming generalizations.

- 4- Further research could compare two different cultures, e.g. Saudi Arabia and the United Kingdom. Such research would elaborate upon the effect of cultural differences on web 2.0 uses particularly in terms of the pedagogy that is applied. This will lead to a better understanding of how learning relates to theory in different cultures and, therefore, how to utilise eLearning, i.e. web 2.0 via blogs more effectively.
- 5- This research focused on particular learning theories, i.e. Behaviourism, Cognitivism [Bloom's Taxonomy Model] and constructivism [Boud's Model] with diverse concepts. Further research could involve other learning theories, especially with the theories that consider culture, such as, Active Theory, Connectivism Theory and, Kolb's Learning Styles.

9.6 CONCLUSION

Previous investigations were mainly non-theoretically based and focused upon one perspective regarding the implementation of web 2.0 via blogs in learning environments in higher education in Saudi Arabia. This research used practical investigation to achieve an in-depth understanding of the impact and the factors that influence learners' perceptions, skills, attitudes and knowledge by identifying the interrelationship between these factors and concepts and linking these to theory.

This inquiry accompanied by Interpretive Research utilized Action Research (AR). Action Research enabled this researcher to engage pragmatically with the research to develop practical action for better understanding and to derive a model. The multiple-instruments for data collection applied in this research have been analysed by Thematic Analysis (TA) and validated. TA provides the data, systematically, with different levels of sub-themes. Thus, access to the data was achieved by gathering complex and individual themes and statements. The extracted data led to conclusions that adequately answered the research's aims and evaluated the research procedures and design. This research contributes to the literature as well as to methodological and theoretical aspects and makes practical suggestions. Furthermore, further research with recommendations has been presented.

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APPENDIX A ETHICAL APPROVAL



Mr. MI Alhgaulan
55 Bellflower Road
Hamilton
Leicester
LE5 1TS

26 April 2010

Dear Mohammed Alhgaulan

I am pleased to inform you that the Faculty Research Ethics Committee held on Tuesday 2nd March 2010 considered your Application to Gain Ethical Approval for Research Degree Activities:

TRACKING NO. 0910/036

TITLE: The Effectiveness of weblogs as an educational technology developing a higher education e-learning model based on Web 2.0

OUTCOME: Approved by Chair's Action Agreed by FHREC 2/3/10

If you require any further information, please do not hesitate to contact me.

Yours sincerely,

Elaine Aspell
Faculty Research Student Coordinator
Tel: 0116 207 8627
Email: easpell@dmu.ac.uk

Cc Steve McRobb
Graduate School Office
File

APPENDIX B CONSENT FORM FOR RESEARCH STUDY



Consent form for Research Study

Name of Study: The effectiveness of 'Weblogs' as an educational technology: developing a higher education E learning model based on Web 2.0.

Researcher(s): Mohammed Ibrahim Al-Hojailan.

Email: malhojailan@ksu.edu.sa , **Mobile:** 07-55151-8855

In signing this consent form, you agree to volunteer for the "The effectiveness of 'Weblogs' as an educational technology: developing a higher education E learning model based on Web 2.0" research project, being conducted by the researcher with the student of the subject named "COMP5262: Research, Ethics, and Professionalism in Computing" which will be placed in second semester of 2009. The research being conducted relates to learn more about the effectiveness of Weblogs in education. Its aims are; to develop an e learning model that is appropriate with read/write services via web blog tools and to measure the attitude, barriers of culture concept toward the implementation of integrate online courses. The pilot study aims rebuilding and developing the instruments and the tools of the study.

The main aims of this study are:

- 1) To develop Elearning model with the characteristics of Web 2.0 (read/write) applications to align with the affordances of blog tools that can be tested for the use in a class environment.
- 2) To examine the impact of blog tools on the learning and attitudes of Saudi students in higher education toward read/write web.
- 3) To explore the relationship between their attitudes toward Weblogging instruction and factors identified as potentially influencing these attitudes. These factors include: perceived blog attributes, cultural perceptions, computer competence, computer access, and students' characteristics.

Every effort will be made to ensure confidentiality of any information that is obtained in connection with this study. Interviews and any data collected will be used solely for research purposes by the researchers in this study. All information will be kept confidential and any use made of such information in research outcomes such as papers and reports will not indicate your name or personal details that would identify you.

In agreeing to become a participant, you will be required to participate through one or more of: a survey; an interview with the researcher; and keeping a diary.

Researcher Signature

Date _____

I confirm that I have read and understand my participation in the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time.

Participant Signature

Date _____

This research project has been reviewed and approved by the Humanities Research Ethics Committee

APPENDIX C SIMPLE RESEARCH CONSENT LETTER

Dear participant

This letter is to give you information in the hope that you will participate in a study for a project as part of my PhD research course at centre of computer and social responsibility CCRS at De Montfort University, Leicester - England.

The discussions will be so that I can:

- Gain in depth knowledge of the effectiveness of utilizing web 2.0 in higher education.
- Find out what different types of information would cross the concept of the factors would affect utilizing web 2.0 in higher education student.
- Gain understanding of what functions such a system could contain.
- I also hope to learn more about the topic area and develop my research skills.

Participation in this study is entirely voluntary. It will involve an interview of approximately 30 minutes in length to take place at technology school with the subject: COMP5262: Research, Ethics, and Professionalism as previously arranged in this semester.

You may decide not to answer any of the interview questions if you wish. You may also decide to withdraw from this study at any time by advising Mohammed Alhgaulan. I may ask for clarification of some points some time after the interview, but you will not be obliged in any way to clarify or participate further. Beyond that I will not seek any more interviews or make any further contact with you about this after the interview unless you ask me to.

If you request, the information you provide can considered confidential, except that with your permission anonymised quotes may be used. If you request confidentiality, beyond anonymised quotes, information you provide will be treated only as a source of background research, alongside book and web-based research [and interviews with others].

If you request, your name or any other personal identifying information will not appear in the course project paper resulting from this study; neither will there be anything to identify your place of work or the business.

Notes collected during this study will be retained for the rest of the 2005/06 academic year in a secure location and then destroyed, if you request. The information gained from this interview will only be used for the above objectives, will not be used for any other purpose and will not be recorded in excess of what is required.

Even though I may present the study findings to the class, only the course instructor and I will have access to the interview data itself (unless there is mention of illegal behaviour in the interviews). There are no known or anticipated risks to you as a participant in this study (unless you mention issues of illegality).

If you have any questions regarding this study or would like additional information please ask me before, during, or after the interview.

I can assure you that this study has been reviewed and approved by my course instructor. Thank you for your assistance in this project.

Yours Sincerely,

Mohammed I. Al Hojailan
Mobile: 0755-151-8855- email: malhojailan@ksu.edu.sa

I have read the information presented in the information letter about a study being conducted by Mohammed Alhgulan for centre of computer and social responsibility CCRS at De Montfort University.

I have had the opportunity to ask any questions related to this study, and received satisfactory answers to my questions, and any additional details I wanted.

I am also aware that excerpts from the interview may be included in the course project paper to come from this research. Quotations will / will not be kept anonymous. I do/do not give permission for my identity to be revealed in research reports.

I was informed that I may withdraw my consent at any time by advising the student researcher. With full knowledge of all foregoing, I agree to participate in this study.

Participant Name: _____

Participant Signature: _____

Interviewer Name: _____

Interviewer Signature: _____

APPENDIX D RESEARCH ACTIVITY

REQUIRING HUMAN RESEARCH ETHICS

CONSIDERATION OR APPROVAL

1



DE MONTFORT UNIVERSITY

APPLICATION FORM TO GAIN APPROVAL FOR ACTIVITIES INVOLVING HUMAN RESEARCH ETHICS

Notice to Staff and Students

If your research involves using human tissue or fluid samples please **DO NOT** use this application form. You will find the application form for approval of activities involving the use of human tissue at: intranet.dmu.ac.uk/training_development/dmu/Support_for_you_in_your_role/HTA.htm
Alternatively please approach the Research and Commercial Office, Faculty of Health and Life Sciences, 2.25L Hawthorn Building, Phone: 7891 17777

The University requires that approval is obtained by members of staff of the University and by students of the University who wish to engage in research detailed below. Please use this form for an application if your research involves:

1. Gathering information about human beings (and organisations) through:
 - interviewing
 - surveying
 - questionnaires
 - observation of human behaviour
 - modify/disturbing human behaviour
 - interfering in normal physiological and/or psychological processes
2. Using archived data in which individuals are identifiable.
3. Researching into illegal activities, activities at the margin of the law or activities that have a risk of personal injury.
[It should be noted that in regard to research into illegal activities there are no exclusions or blanket permissions and the University Insurance cover may not apply if the research activity has not been cleared by the University or, in certain cases with delegated authority, the appropriate Faculty Committee.]
4. Supporting innovation that might impact on human behaviour e.g. Behavioural Studies

Guidance and support will be given by your supervisor (for student research), your line manager or an appropriate designated officer/ Faculty Research Office. Queries arising out of this should be directed to:

<p>FAILURE TO GAIN FREC APPROVAL FOR YOUR RESEARCH MEANS THAT YOUR PROJECT MAY BE FAILED OR THAT YOU ARE SUBJECT TO DISCIPLINARY ACTION.</p>

DE MONTFORT UNIVERSITY

APPLICATION FORM FOR RESEARCH ACTIVITY REQUIRING HUMAN RESEARCH ETHICS CONSIDERATION OR APPROVAL

Staff/Student Name

Mohammed Alhgaulan

Programme (if relevant)

PhD in Technology department

Title of Research Project

The effectiveness of 'Weblogs' as an educational technology: developing a higher education E learning model based on Web 2.0

Brief description of proposed activity and its objectives:

- 1) To develop Elearning model with the characteristics of Web 2.0 (read/write) applications to align with the affordances of blog tools that can be tested for the use in a class environment.
- 2) To examine the impact of blog tools on the learning and attitudes of Saudi students in higher education toward read/write web.
- 3) To explore the relationship between their attitudes toward Weblogging instruction and factors identified as potentially influencing these attitudes. These factors include: perceived blog attributes, cultural perceptions, computer competence, computer access, and students' characteristics.

Ethical issues identified:

Gathering information from students in technology school, throughing: Interviews; Questionnaires.

How these will be addressed:

No personal identification data will be stored. Users will have a reference number that identifies their answers pre- and post-test.

To which ethical codes of conduct have you referred? These are specific to each Faculty and if you have a query please ask your supervisor or Faculty REC for advice.

Technology

Checklist for applicant:

Has the research proposal identified any of the following research procedures?

1. Gathering information about human beings through: Interviewing, Surveying, Questionnaires, Observation of human behaviour. Yes – see above
2. Using archived data in which individuals are identifiable. No – see above.
3. Researching into illegal activities, activities at the margins of the law or activities that have a risk of personal injury. No.
4. Supporting innovation that might impact on human behaviour e.g. Behavioural Studies. No.

Have you considered the following? (tick boxes beneath for "YES"):

- √ Providing participants with full details of the objectives of the research [yes at induction and when research tools are deployed]
- √ Providing information appropriate for those whose first language is not English [yes at induction and when research tools are deployed]
- √ Voluntary participation with informed consent
- √ Written description of involvement [yes at induction and when research tools are deployed]
- √ Freedom to withdraw
- √ Keeping appropriate records [yes, maintained by DAQ]
- √ Signed acknowledgement and understanding by participants [yes at induction and when research tools are deployed]
- √ Consideration of relevant codes of conduct/guidelines [see above]

Are there other/additional factors that could/will give rise to ethical concerns? E.g. language difficulties

n/a

List of accompanying documentation to support the application:

- (1) A copy of the research proposal – attached proposal DMU-NIACE_CoTIL.12.06.08.doc
- (2) The details of arrangements for participation of human subjects (including recruitment, consent and confidentiality procedures and documentation as appropriate) - attached
- (3) A copy of all the documentation provided to the volunteer to ensure the clarity of information provided – see attached consent form: CoTIL_CONSENT.05.09.08.doc
- (4) Copies of appropriate other ethical committee permissions (internal or external) or supporting documentation . n/a
- (5) If appropriate: a list of proprietary drugs or commercial drugs to be used in the proposed investigation including formulation, dosage and route of administration and known adverse side effects n/a
- (6) A statement of your competence to carry out this research as a student or a brief one page curriculum vitae for each applicant, including recent publications (staff only) – attached: see CVs in appendix 1 of the proposal DMU-NIACE_CoTIL.12.06.08.doc
- (7) Other documentation as advised necessary: n/a

There are four possible outcomes from reviewing the activity against the procedures in place:

1. no ethical issues
2. minor ethical issues which have been addressed and concerns resolved
3. major ethical issues which have been addressed and concerns resolved
4. ethical issues that have not been resolved/addressed

APPENDIX E PARTICIPATION PROCEDURES

LETTER FOR PILOT AND EMPIRICAL

STUDY

Participation procedures

Recruitment

The researcher will work with the tutor teaching subject: COMP5262: Research, Ethics, and Professionalism in Computing, and in technology school, which will give a mix of traditional, age 24-27. students will be asked to fill-in questionnaires. A subset [n=8] will then be asked to volunteer for more in-depth interviews and to keep reflective diaries during the course of the academic session. These diaries will form a personal reflection of the utilisation of read/write web tools that support academic induction, socialisation, learning and assessment.

In Education the researcher will work with the tutor in the class on their academic mentoring scheme. All student is this course will ask if to participate. Those who do will follow the same questionnaire/interview procedure.

Consent

See document: Mohammed_consent-15-02-2010.doc

Confidentiality

All evaluation materials will be anonymised. No personal identification data will be stored. Users will have a reference number that identifies their answers pre- and post-test. The data will be stored on the Flash shared drive, so that it is backed up.

APPENDIX F INTERVIEW GUIDE

Interview guide

Research title: The effectiveness of 'Weblogs' as an educational technology: developing a higher education E learning model based on Web 2.0.

By: Mohammed Alhgaulan: researcher in technology school.

1. The researcher will inform the interviewees of the time and the date of the interviews.
2. The researcher will show the interviewees an official letter obtained from the university declaring that the data is being gathered for scientific purposes.
3. The researcher will start with brief introduction to the company and the informants.
4. The researcher will show participants the objectives of the research.
5. The researcher will use an audio recorder and take written notes directly during the interview.
6. The researcher will seek the permission of the informants to record the sessions.
7. At the end of each interview the researcher will summarise the issues discussed and ask the informants to comment on what they have said if that is possible.

APPENDIX G SAMPLE RESEARCH CONSENT LETTER FOR USE IN CONJUNCTION WITH HUMAN RESEARCH ETHICS

Simple Research Consent Letter

For use in conjunction with Human Research Ethics clearance for ethically simple interviews

In simple cases, this letter can help substantially towards meeting the requirements of Human Research Ethics clearance, but the reviewer/supervisor will have to make sure that the researcher/student understands the letter, and what they are agreeing to do in the letter. The reviewer/supervisor should also check that the researcher/student has considered relevant codes of ethics.

This letter will not be sufficient in complex cases or where activities involve or come close to what the Data Protection Act 1998 calls '**sensitive data**'. See - [http://www.informationcommissioner.gov.uk/cms/DocumentUploads/Data Protection Act Fact V2.pdf](http://www.informationcommissioner.gov.uk/cms/DocumentUploads/Data%20Protection%20Act%20Fact%20V2.pdf)

It will not be sufficient where the participants are **vulnerable** (including being subordinates in a power relationship).

It will not be sufficient where there is a **risk of injury**.

It will not be sufficient in cases of research that touches on issues of **illegality or the margins of the law**. The mention of illegality in the letter is because it is possible for answers to mention things that the interviewer was not asking about. If illegality is mentioned in an interview, the interviewer must not ask further questions about them if this letter is the basis for human research ethics approval.

In the types of cases listed above where this letter is not sufficient, the outcome of the review of Human Research Ethics should either be a 3, if the issues are adequately dealt with, or a 4 if they are not.

Dear participant

This letter is to give you information in the hope that you will participate in a study for a project as part of my PhD research course at centre of computer and social responsibility CCRS at De Montfort University, Leicester - England.

The discussions will be so that I can:

- Gain in depth knowledge of the effectiveness of utilizing web 2.0 in higher education.
- Find out what different types of information would cross the concept of the factors would affect utilizing web 2.0 in higher education student.
- Gain understanding of what functions such a system could contain.
- I also hope to learn more about the topic area and develop my research skills.

Participation in this study is entirely voluntary. It will involve an interview of approximately 30 minutes in length to take place at technology school with the subject: COMP5262: Research, Ethics, and Professionalism as previously arranged in this semester.

You may decide not to answer any of the interview questions if you wish. You may also decide to withdraw from this study at any time by advising Mohammed Alhgaulan. I may ask for clarification of some points some time after the interview, but you will not be obliged in any way to clarify or participate further. Beyond that I will not seek any more interviews or make any further contact with you about this after the interview unless you ask me to.

If you request, the information you provide can considered confidential, except that with your permission anonymised quotes may be used. If you request confidentiality, beyond anonymised quotes, information you provide will be treated only as a source of background research, alongside book and web-based research [and interviews with others].

If you request, your name or any other personal identifying information will not appear in the course project paper resulting from this study; neither will there be anything to identify your place of work or the business.

Notes collected during this study will be retained for the rest of the 2005/06 academic year in a secure location and then destroyed, if you request. The information gained from this interview will only be used for the above objectives, will not be used for any other purpose and will not be recorded in excess of what is required.

Even though I may present the study findings to the class, only the course instructor and I will have access to the interview data itself (unless there is mention of illegal behaviour in the interviews). There are no known or anticipated risks to you as a participant in this study (unless you mention issues of illegality).

If you have any questions regarding this study or would like additional information please ask me before, during, or after the interview.

I can assure you that this study has been reviewed and approved by my course instructor. Thank you for your assistance in this project.

Yours Sincerely,

Mohammed alhgaulan

Sample Research Consent Letter for use in Conjunction with Human Research Ethics

I have read the information presented in the information letter about a study being conducted by Mohammed Alhgaulan for centre of computer and social responsibility CCRS at De Montfort University.

I have had the opportunity to ask any questions related to this study, and received satisfactory answers to my questions, and any additional details I wanted.

I am also aware that excerpts from the interview may be included in the course project paper to come from this research. Quotations will / will not be kept anonymous. I do/do not give permission for my identity to be revealed in research reports.

I was informed that I may withdraw my consent at any time by advising the student researcher. With full knowledge of all foregoing, I agree to participate in this study.

Participant Name: _____
Participant Signature: _____

Interviewer Name: _____
Interviewer Signature: _____

APPENDIX H LIST OF GOVERNMENT**UNIVERSITIES IN SAUDI ARABIA FROM****1950-2011**

	Government Universities in Saudi Arabia	Established	Colleges
1	Um Al-Qura University	1949	22
2	King Saud University	1957	18
3	Islamic University	1961	5
4	King Fahd University of Petroleum & Minerals	1963	8
5	King Abdulaziz University	1967	19
6	Imam Muhammad Ben Saudi Islamic University	1974	12
7	King Faisal university	1974	15
8	King Khalid University	2000	12
9	Qassim University	2003	12
10	Tayba University	2003	25
11	Tayif University	2003	14
12	Hail University	2005	14
13	Jazan University	2005	17
14	Aljouf University	2005	14
15	Albaha University	2005	11
16	Tabuk University	2006	8
17	Najran University	2006	13
18	Northern Border University	2006	14
19	Princess Nora University	2006	13
20	King Saud Ben Abdul Aziz University for health and science	2005	6
21	Dammam University	2009	9
23	Shqra University	2009	9
24	Prince Salman University	2009	18
25	Majmaa' University	2009	12
26	Saudi Electronic University	2011	3
			323

APPENDIX I LIST OF PRIVATE UNIVERSITIES IN SAUDI ARABIA FROM 1999-2012

	Private Universities in Saudi Arabia ⁶⁰	Established	Colleges
1	Sultan bin Abdul Aziz University	1999	4
2	Efate college	1999	3
3	Dar Alhekmah	1999	3
4	Al Yam amah College	2001	2
5	Arab open university	2002	5
6	Albaha private college and science	2002	1
7	Soliman Fakeeh for Science and Nursing	2003	1
8	College of business administration	2003	4
9	Riyadh colleges of dentistry and pharmacy	2003	3
10	Ibn sina national college for medical	2004	1
11	Alafia university	2004	4
12	BMC Medical Sciences and Technology	2005	1
13	Fahad bin sultan university	2005	3
14	College of Qassem	2006	3
15	Almaarifa College	2006	1
16	Mohammed bin Fahad University college	2006	3
17	BMC Medical Sciences and Technology	2006	1
18	Saad college of nursing and allied health science	2006	1
19	Leadership College of Health Sciences	2006	1
20	Buraydah colleges	2008	5
21	Sulaiman Alrajhee colleges	2008	2
22	Dar al loom university	2008	2
23	Al farabi colleges	2008	1
24	Mohammed AlManea College for Medical Sciences	2008	1
25	International Private College	2008	3
26	Almaarefa colleges	unknown	4
27	Global college	unknown	1
28	Alfaisal university	2008	6
29	Algad international medical science colleges	2009	5
30	King Abdullah University of science and technology	2009	9
31	Dar Aluloom	2009	5
32	Care College for Medical Sciences	2011	1
			89

⁶⁰ MoHE, updated Jul 2012 : <http://www.mohe.gov.sa/ar/studyinside/Private-higher-Education/Pages/listphe.aspx>

APPENDIX J Summarised Of Studies That Been Discussed In Chapter

Study	Aim	Method of Data Collection	Participants The period if empirical	Main findings
Alhojailan (2012)	explore the current use and effectiveness of Weblog services in higher education.	Questionnaires, interviews and observations	5 learners	Cultural background of learners had a significant impact on their opinions regarding the acceptance of the blog. Structured modules will probably make the system with integrating blogs less effective and beneficial for learning environments.
(Kang et al. 2011)	Investigate the principle of blog tools as online place individuality and to determine the effectiveness of blog as technology-enhanced learning.	Qualitative study, i.e. observation analysis, blog content.	24 learners, (12 learners each class) two groups with two different modules.	Blog are able to enhance communication between learners and instructors and also support the exchange of experiences between them.
Popescu (2010)	Identifying the learners' attitudes due the implementation of Web 2.0 tools, i.e. blog	Pre-post questionnaire	30 learners, i.e. eighteen male, twelve female	Blog were found very useful and easy to use. The disadvantage of blogs that they require a large amount of time.
Perschbach (2006)	(a)Identify evidence of critical thinking in the learner's blogs and (b) to determine the effectiveness of the blog as a unique technology.	Used qualitative and qualitative methodologies including: (1) student blog postings (2) reflective essay and (3) demographic data from learners.	2 semesters including 4 courses Total: Sixty seven. First semester: twenty-eight learners.	Learning changed from a passive and static accumulation of teacher centred facts and skills to an engaged and dynamic comprehension of concepts by the learner.
(Jones 2006)	The author aimed to investigate the use of blogs using a writing approach by learners and to investigate how learners responded to the pedagogical application of blogging in a community college.	Used qualitative research, using action research methods. Included 5 case studies Closed-ended survey at the beginning and end of the semester and three interviews. Conducted in depth study with open-ended semi-structured questions. Requested learners to answer periodic open-ended questionnaires during the course. Reflective learners' journal to be maintained.	18 learners enrolled 1 semester.	Blogs help to improve and facilitate learners' critical thinking skills and improved their trust and confident within their learning processes.
(Felix 2007)	To investigate to the potential impact of blogs	Qualitative, action	First survey included 168	Blog offers multi-ways for learners and instructors to be

Summarised Of Studies That Been Discussed In Chapter

	<p>as a web service for teachers to use in the classroom to communicate with learners and teachers' perception of blog usage.</p> <p>Tried to show teachers how blogs may be useful.</p>	<p>research methods used.</p> <p>Survey, interviews using open-ended structure and document analysis</p>	<p>participants</p> <p>Second survey included 51 participants and 12 interviewees</p> <p>4 months</p>	<p>active. In. Addition, it may make the learning environment and communicate more effective. It supported the relationship between teachers and learners. Finally, it provided a new way of interaction with learners. It fulfilled the desire of the instructors to be active and encourage co-learner contributions.</p>
(Lin, Y. L. Liu, et al. 2006)	<p>Investigating the impact of integrating blogs by encouraging learners to engage in reflective learning and communication.</p>	<p>Qualitative methods, using content analysis, and questionnaire</p>	<p>For three months –one semester included 31 learners.</p>	<p>Blogs prove to be effective tools that give for learners additional skills, also blogs are very important factors for motivating learners to continue to build an effective environment in elearning.</p>
(Chan 2007)	<p>Promote reflection learners' thinking using technology via blogs.</p>	<p>Qualitative and quantitative methods used.</p> <p>Action research method.</p> <p>Questionnaires, weekly posts and analysis of learners' portfolios.</p>	<p>Three semesters, one for running pilot study and two semesters for main study.</p> <p>Eighteen participants for pilot study.</p> <p>117 learners were participants in main study.</p>	<p>Collaborative learning is not a necessary consequence of validating collaborative tools.</p> <p>Blogs may be positive as there is slight proof to show that learners are a bit interactive but it is not sufficient to change their way of learning.</p> <p>There is a room for improvement, as 73 learners consider blogs to be convenient and 45.2% like to practice and share ideas.</p>
We-Shuenn (2004)	<p>Discuss the benefits of blogs in an EFL classes</p> <p>To report upon the reaction and the impact of the use of blogs.</p> <p>To recommend some future research on blogs and into other applications of blogs in teaching.</p>	<p>Not clear</p>	<p>Full semester in 2004</p> <p>Two groups, the first one included 35 participants and 16 in the second.</p>	<p>It helped to improve skills in learning environment</p>
(Divitini et al. 2005)	<p>Discover the impact of blog services to support teachers in education.</p>	<p>Analyse content and blog usage.</p> <p>Observation</p> <p>Questionnaire distributed to the learners after the end of observation period.</p>	<p>Not clear, mostly one semester</p>	<p>The research did not succeed. Learners did not accepted blog within their learning environments.</p>

APPENDIX K DIFFERENCES BETWEEN THE TWO GROUPS IN (W. WU 2005).

Descriptions	Class A	Class B
Participant number	35	16
Level of knowledge of the English language	Intermediate level of English	Intermediate level of English
Methods of treatment	Use of blogs but do not count towards their final grade.	Use of blog required and accounts for 20% of their final grade.
Tasks required	Use of blogs was not compulsory. Learners volunteered have to post their homework assignments on blog.	Write at least 7 online journals that count toward the final grade by 20%.
Time of delivering the modules	Two hours per day, twice per week	Two hours per day, once per week

Table 21: Differences between the two groups in Wu (2005) experimental study

List of Experts who were involved by giving feedback , validating the instruments and translation

**APPENDIX L List of Experts who were involved by
giving feedback , validating the instruments
and translation**

	Name	Position
1	Prof. Hafiz Salaam	Head of IT Education and Special Education at the University of the Middle East
2	Dr. Othman Alturky	Assistant Professor and Vice-Dean of the National Centre for e-Learning and Distance Learning (NCEDL). Research Associate in Educational Technology at King Saud University, Saudi Arabia
3	Dr. Mohammed Al-Tayar	E-Learning and Portal Implementation, IT Department, Imam University, Riyadh.
4	Professor. Richard Hall	Head of ELT, based in the Directorate of Library Services at De Montfort University, Leicester, UK
5	Dr. Khalid Al-Swisi	Dean of Faculty of Technology in Zentan University in Libya
6	Mr. Steve McRobb	Principal Lecturer in the Department of Informatics, teaching systems analysis and design, research methods and systems development.
7	Dr, Khalid Al-Nafesa	Head of the English Department in Teachers' College, Riyadh, Saudi Arabia.
8	Dr. Fahad Alied	PhD in IT and e-commerce.
9	Dr. Jehad Al-Amri	Senior Lecturer in IT at Taif University, Saudi Arabia.
10	Dr. Maher Aljaber	Senior Lecturer at Balqa Applied University, Jordan, Amman.
11	Mr.Mahmoud Albaseer	Lecturer in Computer Science.

APPENDIX M The ten posts that received most comments from participants in the blog

	Title of the post	comments	Nature of the article	week	note
1	The use of computers in learning resource centres	14	Reliance on the participants' experiences in their field and subjects	1	5 comments were thankful
2	The goal of utilizing computer applications in education	12	View of one of the articles and asking questions	1	4 comments were thankful
3	The culture of technology in our school	11	Article was to present some experiences in learners' fields of how to avoid barriers to integrate technology in schools	2	Critical writing
4	Comment on other article	9	The learners went to visit some schools. The writer asked them to report on their experience and any benefits they derived	4	
5	Great and exciting thoughts	8	The idea of the article directs to another posted article then asks questions regarding its content	1	Different thoughts previewed regarding the titles
6	What are the obstacles faced the Director of Learning Resources at the school	8	The writer identified the factors that influenced the Director of Learning Resources.	11	The writer asked the reader to responded
7	Private schools in the education systems	7	The writer gave an idea of the benefit of private schools then asked questions about the reader's experience regarding the topic	3	Not related to the module's subjects
8	What are the obstacles the Director of Learning Resources at the school has to negotiate.	7	The writer identified some factors that may influence the effectiveness of the Director of Learning.	9	Similar to the article in NO. 7. -One comment added a URL to the article in NO.3
9	Criteria for evaluating the educational scenario	7	Identified the process of the criteria for evaluating educational scenario	10	Related to the module's subjects
10	How to evaluate any Elearning project in school	7	Overview of the criteria for evaluating Elearning projects.	10	Was copied from other websites

Table 22: Most ten article comment by participants

APPENDIX N Example of Transcribed Interviews, Questionnaire and Observation Noticed

Interview NO.1 Week 2, 14 Students
Question One: Do you think that there are advantages / disadvantages in utilizing blog in education?
Responded
S1: It is my first time to use the blog. I don't think it is disadvantageous, I expect that it is good and useful as it entails discussion and dialog. In the beginning of communication, I felt that there is a connection and interactive between the Lecturer and Students, which is important. L: What are the causes that would make the communication being more?
S1: The most important is the exchanging the experiences of the information and credibility as you know the informer, it is much serious
S2: It is not my first use of the blog, it was personal use.
S3: I think it is useful at a certain stage. L: Which stage do you mean? S3: I mean a stage of communicate when needing information.
S4: I have more than one blog, but it is the first time to see one dedicated for education. Why? Because it is governed by laws, socially purposes only used. Which rules do you mean? The rule of any modules, if it is structured or not.
S5: I know about the blogs, once I had personal one for articles publishing but this one is first as in educational blog.
S6: I was not aware how to deal with blogs but I have past experience about those concerning by my studying sources at Oman's blog, as there has been hyper communication which was so useful to me. Its usage in the classroom as a group, and seen strange to me thinking that it was a websites for posting your researches and diligences the ideas.
S7: More interaction in blog, in the beginning it was one sided but now there is interaction. L: Which side do you mean? S7: Students side only without lecturer participation. How? S7: First I thought it as personal reference websites with no interaction but now it has interaction and development for ideas and thoughts.
S8: I agree with most of the above opinions
S9: I had and experience in the 2 nd class, during applicative competition for high school students, where there was very poor joining, as only 2 out of 500 joined. L: Have you asked them why? S9: I was studying the reasons only but did not ask them why? L: You think it is appropriate to utilize in education? S9: Very appropriate.
S10: I know about blogs, I used them as a means of knowledge only In fact as a means of education it has not the possibilities as not dedicated for education L: Why do you think that it is not dedicated or designed for education? S10: I think blog's purposes for social interaction.
S11: I have little knowledge about blog, but I knew how to participant and reply after joining the blog. If discovered some benefits and benefited from that will be fine. L: How specifically you find that useful in some way or the other? S11: It makes refer you to some references and sources look for the information, the factor of interaction and participation with your colleagues is important, which was not my opinion prior to using it. Got cultured from the rich presentation by the colleagues, quick learning in a short time, getting answers. Something you live with where you find an answer and renovation all the time. And that of course it is based on the interaction between the participants. It is all positive, I don't think there is some negative. Also person's name is recorded on it.
S12: I believe that the most advantages is exchanging of the experience for one concerned subject as our module. In the past I knew very little about blogs. L: Did you believe that it was just for personal use as a means of culture? Yes, as Facebook websites, I also believe it helps in boosting education and searching. L: why? S12: because the long article is boring and nobody is ready to read that long article. But don't think that is not appropriate?
S 12: yes
S 13: At first I did not know about it before using it and thought it was like an ordinary social page
S 14: I was not aware about it before but after practice I feel that it is very useful

Observation NO. 5: week 6 to week 17,

- Compare to other kind of posting, I have noticed that posting and diverted from other websites being less amount than before, that is means the message been affected and delivered, the group said they prefer the original or related posts to the module.
- In addition, based on the conversation with the learners regarding the blog, I can divide the learners perception regarding act in the blog in three different types:
 - First group: like the experiment, they just enjoying post or comment regardless any other issues e.g. diversities type of posting and comment, transfer from other websites etc.
 - Second group: just not enjoying being with us, for them, it is fine whenever we have time, moreover, they admit that the blog is a great, new idea and, beneficial services but that did not enough to give it more time instead spent time with the work that I will evaluated by.
 - Third group: they are -naturally- interested to any new services of technology especially on the internet tools and services; they are participating and giving lots of efforts but in some time that effort being less. At the time, that is probably based on their interested of the posts or to add any information.

But all of them have a similar opinion regarding few issues e.g. they dislike the length posts and prefer to read comments' neither related to posts nor complimenting comments.

- In this period of time, significantly, I have being less active and stop summarising and presenting the learners comment and posts in the class, the aim of that was to see the impact after the growing up of the activities number of comment and posts
- The high number of posting and comments in the week 11 because it is a result of followed the rules that we made in the last stages [see observation 4].
- Seeing that the interaction e.g. numbering posting and comment being more that the prevue time, it been decreased [see table]
- Some learners disclose that, each time I presented and discussed their comment and posting, they are being so motivation which made them being more inspire us to write more and more, but that been missed recent week.

Example of Transcribed Interviews, Questionnaire and Observation Noticed

Post-test questionnaire answering										
participant information	questions 4	Part5, Questions 1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	9/9
	Questions idea: Accept to be participate and recommended to others	Convenience	Content	Interactivity	Discipline & motivation	Transferability	Enhance learning	Interest	Time	Easy to use
PR.S1	Yes, because it has lots of features, would enrich the learners in the subject related.	it is not linked with time and places, you are able to write and sharing in any time and places.	Interactivity is provided between the learners and exchanging the experience and activities.	when there is a subject posts, will allowing everyone to interactive with each other. Everyone are able to participate with giving ideas and thought which will increase to learn.	: offers an exciting ways and provides with no link with time and places.	Because it is not complexity and smooth to used, also it is clear to understand.	when there is an instruction to use, the posts and comments will be around the subjects, which will back huge benefits and help to reach the aim of the subjects.	not limitation with time and places. Also, using lots of writing would improve the skills of writing and reading.	Strongly agree; writing dose not need lots of time – for me-, and it is not limited or linked with the time of being in class.	Internet access providers in most time and places.
PR.S2	I will accepted because: 1- it is easy to use for learners,2- there are multi option in control panel,3- ability of easy to comment, 4- ability of linked with sharing websites such as Facebook, twitter.	because the easy to use	Contents make me got lots of experience during using the blog with the course	the ability of link it with other's social networks.	the feedback is taking short time, and it is assist	I found that with experience that I got in this course, it is beneficial	No comment	based on my experience in the course, it is interesting.	disagree; it takes lots of time when we want good value of the information.	Based on my experience. It is interesting.
PR.S3	Yes I'll accept that if there are rules and instruction for each post, for example, each week should have only one subject or post and close in particularly time.	Because the way of comment and post via internet which mean the ability of doing activity in any time.	We are able to publish research or articles are very rich and useful.	Blogs is allowing to discuss and post with comment in one particularly subject".	There is a positive side to share between learners.	I did not find any difficulty for post or comment.	As we have touched this with one subject during the course.	I have found that almost learners trying to get the intention to him by his posts.	With the recent technology and the ability of connect for everyone to the internet, there is no difficult to do any search for doing of any activities.	Because it is quick for reading and writing.
PR.S4	I am personally, used the blog and encourage all the learners to use, and will encourage the student to use as well, I have used it with the practical course with my students.	the blog allowing any one to interactive with the visitors of the blogs, exchanging the experience in experimental fields, enrich the information from others. Blogs, from my experience, the benefit is big if it run in a good way.	you can run the activities and exchanging the experience between the learners and teachers.	The features allowing you to interactive with others in big range and get benefits via that	if the learning via blog based on; exchange learning and on clear syllabuses.	if the writing is based on personal ideas or delivery information.	if there is a based in academic learning to reach the aim.	no comment.	Neither agree nor disagree	Neither agree nor disagree

Appendix O Appendix E Developed concept of action research

Authors	Year	Concepts
Corey	1953	Claims that AR methods enable participants to study problems in scientific ways. Consequently, they will be able to improve, evaluate and then guided in order to make a decision.
Stenhouse	1979	Contributing or developing theory in education and teaching should be next in importance to producing practices with reflections upon practice accessible to others practitioners.
Hopkin & Ebbutt	1985	They argue that, individually, AR method could improve understanding and enhance practice.
Carr and Kemmis	1986	AR methods are a structure of self-reflective inquiry. By involvement with the process people will be able to develop their thoughts about their practice.
Grundy	1987	AR methods can be applied to the development the 'social situation of existence'.
Zuber-Skerritt	1996	He claims, " <i>The aims of any AR project or program are to bring about practical improvement, innovation, change or development of social practice and the practitioners' better understanding of their practices.</i> " (in Cohen, et al 2001, p 226)
Kemmis & McTaggart	1992	AR focuses on changing individuals, the culture of groups and communities or organizations. It is the activities and practices with social relationships in institutions that assemble the communication of that group culturally.
Cohen & Manion	1994	AR as a small-scale intervention within the performance of the realism is able to examine the effects.
Bassey	(1998: 93)	" <i>Action research as an enquiry, which is carried out in order to understand, to evaluate and then to change, in order to improve educational practice.</i> " Understand, evaluate and change to improve.
Greenwood and Levin	(1998)	" <i>Action research is a form of research that generates knowledge claims for the express purpose of taking action to promote social change and social analysis....Action research aims to increase the ability of the involved community or organization members to control their own destinies more effectively and to keep improving their capacity to do so.</i> " (in Cohen, et al 2001, p 228) Focused here, it generates knowledge for change and improves the ability to control social life.
Hopkins	(2002,p : 41)	" <i>Action research combines a substantive act with a research procedure; it is action disciplined by enquiry, a personal attempt at understanding while engaged in a process of improvement and reform.</i> " (in Cohen, et al 2001, p 225) Approached processing, intend to gain full understanding through the process.
Reason & Bradbury	(2001)	Action research is concerned on practical results and also on creating new structures of understanding, since the master key for action research is understanding, The result of the practice creates new strategies based on understanding.

Table 23: Developed concept of action research 1953-2002 adapted from Cohen, et al (2001),

APPENDIX P QUESTIONNAIRE ELEMENTS



Dear Participant:

Thank you for your participation and interest in this research. Please read the information below carefully before you decide to participate. Your participation is entirely voluntary.

Purpose: I am currently conducting a survey as partial fulfilment of my PhD at De Montfort University, UK under the supervision of Professor Bernd Carsten Stahl. The PhD aims to determine the use of web 2.0 (blog tools) within your learning environment.

Description: The following survey is purely academic and it is part of the above study. The survey is intended to obtain information regarding your opinions about operating Edu-blogging. Although there is no compensation for responding to the questions in this survey, the information that you will provide is important for developing a better understanding of the perceptions and trends in the higher education and benefits your institution. It will provide a great contribution to the development of universities in general as well as academic study in its own right. Your participation to complete this survey may require 15 to 20 minutes of your valuable time. There are no particular right or wrong answer to these questions. Please feel comfortable to state your opinion to answer the survey questionnaire.

Confidential: All information will be kept anonymous and will be used only for the proposed study. Your response to the survey will be kept confidential and will not be communicated to anybody inside or outside your institution.

Mohammed I. Alhojailan

MIH@dmu.ac.uk

MALHOJAILAN@ksu.edu.sa

THANK YOU FOR YOUR COOPERATION AND PARTICIPATION IN THE STUDY.

The questionnaire is divided into five sections described as follows.

Part one- Questions related to demographical data:

For each statement, please put (√) beside the item that best fits your answer.

Please answer the following questions:

1. Your Nationality ()
2. Gender: ()
3. College level: 1st, 2nd, 3rd, 4th, or Mater
4. Age:
5. Academic major:
6. Department: Technology
7. Your marital status?
 Single Married
8. Do you have children?
 Yes No
9. What is your academic subject?
10. Approximately how far are you from your college?
 Kilos

Part two- Computer Access:

11. I have computer at home:
 Yes No
12. I have access to the Internet at home:
 Yes No
13. I can access the Internet on the college campus:
 Yes No
14. I have taken blending online course before:
 Yes, how many [], No
15. Have you taken an online course before?
 Yes, how many [], No

Part Three- Computer Perception

	Statement	No experience	Very little Experience	Some Experience
1.	Operating System (e.g. PC, Mac, etc.).			
2.	Microsoft Office (e.g. Word, PowerPoint, Excel etc.).			
3.	E-mail programs (e.g. Outlook Express, Yahoo, etc.).			
4.	Imaging device (e.g. scanner, digital or video camera, etc.).			
5.	Internet browsers (e.g. Chrome, Firefox, Safari, Internet Explorer, etc.).			
6.	Web searching engine (e.g. Google, Yahoo, Hotmail etc.).			
7.	Web page development programs (e.g. Front Page, Dreamweaver, etc.).			
8.	Web-based instruction support (e.g. Blackboard, Course Web Pages, Web CT, etc.).			
9.	Threaded discussions (e.g. electronic bulletin board, blog, forum. etc).			

Part four: The Perception towards -WBI- Web-Based Learning

If you or your friend has been offered an online-course that uses blog tools, i.e. you are going to post subjects, comment on others' posts and participate multi activities and interactions using blog tools and services, would you take it or recommend it to your friend or not? Please explain why and why not?

Part five: Use your own word and give your opinion about the statement below, do you agree or disagree and why?

*Statement 1: **Convenience**, using blog activities allow participation at convenient times and places for learners and instructors.*

*Statement 2: **Content**, blog activities provide vast online resources.*

*Statement 3: **Interactivity**, blog activities offer adequate interactive tools for learners and instructors.*

*Statement 4: **Discipline and motivation**, blog activities require learners to be self-motivated and disciplined.*

*Statement 5: **Transferability**, blog activities transmit information in a valuable and fast way.*

*Statement 6: **Enhanced learning**, blog activities are useful for enhancing academic learning and achievement.*

*Statement 7: **Interest**, utilizing blog activities is interesting for learners.*

*Statement 8: **Time**, blog activities and discussion boards require less time spent in academic learning compared to traditional learning, i.e. -face to face-.*

*Statement 9: **Easy to use**, interaction with blog activities can be found easy to use; with quick responses to enquiries.*

APPENDIX Q INTERVIEW QUESTIONS

Interview questions:

Question One:

Do you think that there are advantages / disadvantages in utilizing blog in education?

Question Two:

Do you have any opinion that blogs would be good for education?

Question three:

Specify the features that make you think that the use of blog in education is different and what are the positive things you have personally witnessed?

Question four:

What are the reasons that make you think that blogs are good to use?

Question five:

Do you want to add further information regarding our conversations?

APPENDIX R SHOT SCREEN FOR SOME POSTS AND COMMENTS IN THE BLOG

<p>ركز على التتابع والتسلسل المنطقي دون التقييد بترتيب ثابت لخطواتها مما يطمئنه مرونة في التحليل وهذا النموذج يتصف بالشمولية حيث أنه يشمل جميع خطوات تصميم الموقف التعليمي وهي:-</p> <p>أهداف - خصائص تعلمين - خدمات - نشاطات - محتوى تحفيزي - راجعة - تكويني - تقييمي - نهائي - الخيارات والموضوعات (أهداف عامة) .</p> <p style="text-align: right;">رأيك بالموضوع</p> <p style="text-align: right;">(جيد أو جيد 0)</p> <p style="text-align: center;">هناك تعليقان (2):</p> <p style="text-align: right;">محمد بن ابراهيم الحجيجان يقول...</p> <p>الحكم النهائي للمودجين يجب أن يكون بعد تجارب تطبيقية للموديلات أو الأساليب</p> <p>اعتقد أن التقييم النظري له 2٦٠ من الدور للتحليل علي النموذج او معرفة درجة تقييمه.</p> <p>و التطبيق له الدور الباقي نسبياً</p> <p style="text-align: right;">11 يناير، 2011 11:26 م</p> <hr/> <p style="text-align: right;">الجوهري يقول...</p> <p>تحية طيبة</p> <p>نعم وأنا أميل إلى هذا القول وهو بأنه لا يمكن الحكم النظري فقط بل من الضروري دعم النظرية بالحجاب التطبيقي إن كان في الإمكان تطبيق ذلك .</p> <p style="text-align: right;">13 يناير، 2011 12:19 م</p> <p style="text-align: right;">إرسال تعليق</p> <p style="text-align: right;">روابط هذه الرسالة</p>	<p>علاوة سعودية تتلخص بسملة الأسماع للدخول إلى البريد ...</p> <p>مراحل انتاج البرمجيات التعليمية</p> <p>نقاش : دراسات توضح سمويات تعريف استخدام الحاسب الأ...</p> <p>أدوار المدرسين في تدبير وتنظيم الحصص التعليمية</p> <p>أهمية مركز مصادر التعلم</p> <p>مصطلحات في التربية والتعليم والتقنيات</p> <p>ماهي الحفقات التي تواجه أمماء مصادر التعلم في عملهم...</p> <p>كيفية تفعيل دور مركز مصادر التعلم في العملية التعل...</p> <p>موسوعة الويكيبيديا</p> <p>من حاجة استخدام الحاسب في التعليم</p> <p>مميزات استخدام الحاسب في التعليم</p> <p>مزايا استخدام الحاسب في التعليم</p> <p>تفعيل مراكز مصادر التعلم باستخدام برنامج أمين</p> <p>المواصفات الجيدة في البرامج التعليمية</p> <p>مطلب التعليم الإلكتروني</p> <p>التدريب في مراكز مصادر التعلم</p> <p>المعلم المنهج والبرامج التعليمية</p> <p>أهم تطبيقات البريد الإلكتروني في التعليم</p>
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<p>مقول من(مقالة للدكتور /رمضان احمد الصباح في مجلة المعرفة الشهرية والصادرة عن وزارة التربية والتعليم في المملكة العربية السعودية العدد (175) والصادرة بتاريخ 18/10/1430 هـ بحوان (سبديوهات المستقل التربوي: الاستطلاع أم الاستهداف الإنمائية أم الاحتمال؟).</p> <p>وفيما يلي ساعرض نماذج لسبديوهات برمجية في مادة العلوم لموضوع الكهرباء الساكنة</p> <div style="display: flex; flex-direction: column; align-items: center;">    </div>	<p>طلب (المودات الإلكترونية) من من مؤيد مطلوب التصو...</p> <p>قريباً رسائل 3D المتحركة تتعلمها لأصدقائك في أي مكان...</p> <p>تطبيقات الحاسب في التعليم: ماذا وجدت في زيارتك بعد...</p> <p>ماذا وجدت في زيارتك لندسة التعليم الإلكتروني</p> <p>نظام المدرسة الإلكترونية</p> <p>مدونات المكتبات والمكتبيين " الجزء الثاني</p> <p>مدونات المكتبات والمكتبيين " الجزء الأول</p> <p>مجلة المعلوماتية</p> <p>نبذة تاريخية عن التعليم المبرمج</p> <p>مدونة مراكز مصادر التعلم والجهات لأركان مركز مصادر...</p> <p>مؤامرة عن الـ (سولار يو) في مجال التعليم</p> <p>التعليم الحاسوبي إهداء لتعليم التقليدي أم تكميل ...</p> <p>كثرت مدارس واعتماد واحد</p> <p>بناء على ماسبق هذه سؤال يدع (يشرح)لغسه هل الحاس...</p> <p>الأجهزة التعليمية مفهوم جهاز تعليمي يقصد ب...</p> <p>التعليم باستخدام الحاسوب</p> <p style="text-align: right;">◀ 10/24 - 10/31 (19)</p> <p style="text-align: right;">◀ 10/24 - 10/17 (11)</p>
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تطبيقات الحاسب في التعليم

مدونة تسمى بالمفاهيم المتلفة بتطبيقات الحاسب في التعليم ، و ما يتعلق بالتطبيق كما يقدم خبرات الكثير من المتخصصين في هذا المجال من اختصاصي مراكز مصادر التعليم. وستقدم هذه المدونة الى مساعدة المتدرب على انتاج البرامج التعليمية و التصميم و الأنتاج و التنفيذ و التقويم

السبت، 1 يناير، 2011

بحث هذه المدونة الإلكترونية

بحث

برسلة بواسطة ابوخلد الورداني في 11:33 م

التوجيه الفني للوسائل التعليمية الحديثة

إعداد الدكتور هشام عوكل بلجيكا

أن أهم مقاييس تقدم الأمم والشعوب، هو مدى تقدم التعليم في كل بلد ، والحقيقة الواضحة وضوح الشمس، التي لا تخفى على أحد أن التعليم في معظم الوطن العربي يعاني إما في إمكانيته أو سياساته أو مناهجه، وربما في كل هذه العناصر مجتمعة.

ورغم هذا فصورة تعليمنا العربي المعاصر ليست بالسوء الذي يؤدي إلى الظلام ، فهناك طرق وأساليب يمكن اتباعها تمثل بصيص أمل للتهوض بالتعليم في أغلب أقطارنا العربية، وأولى هذه الطرق تتمثل في التعرف على عناصر التعليم لوضع أيدينا عليها وتحديدها للعمل على الارتقاء والتهوض بها، وبالتالي التهوض بالمنظومة التعليمية بأكملها.

ومن وجهة نظري الخاصة جداً أرى أنه يمكن تخصيص عناصر العملية التعليمية في أي مكان كان كالتالي المتعلم " التنميه منذ دخول المدرسة حتى المرحلة الثانوية أو الطالاب من الثانوي إلى آخر الجامعي.

-المعلم "الأستاذ الجامعي أو باقي معلمي التعليم العام والخاص"

- المناهج التعليمية.

-العوامل المؤثرة في العملية التعليمية.

كل ركن من أركان العملية التعليمية الأربعة سابقة الذكر لابد من تدرجه وبيان أهميته، حتى يمكن وبالتالي الوصول إلى ما يجب أن يكون فيما يخص كل عنصر منها، وبالتالي الوصول للصورة المثلى للعملية التعليمية المستهدفة التي يجب أن يكون عليها نظام التعليم في بلادنا العربية والإسلامية.

أرشف المدونة الإلكترونية

2011 (58) ◀

2010 (208) ▼

◀ 12/26 - 01/02 (102)

◀ 12/19 - 12/26 (21)

◀ 12/12 - 12/19 (13)

◀ 12/05 - 12/12 (4)

◀ 11/28 - 12/05 (2)

◀ 11/21 - 11/28 (2)

◀ 11/07 - 11/14 (1)

◀ 10/31 - 11/07 (22)

◀ 10/24 - 10/31 (19)

◀ 10/17 - 10/24 (11)

◀ 10/10 - 10/17 (11)

وفي هذا الموضوع نتكلم عن العكس :

أوجه المساعدة التي يمكن لمراكز مصادر التعلم تقديمها لتفعيل التعلم الإلكتروني :

1- نظراً لتكلفة العالية لبرامج إدارة نظم التعلم فإن الأمر يحتاج إلى تجربتها بشكل مسفر، والشباب أفضلها، ولقد مراكز مصادر التعلم أفضل الأماكن لتحقيق تلك.

2- يمكن أن يتم تحويل المقررات إلى شكل رقمي في مراكز مصادر التعلم لتواظر المفردات الفنية والتقنية المناسبة فيها.

3- يتم في مراكز مصادر التعلم تجريب طرق تدريس متنوعة في إطار منظومة التعلم الإلكتروني لدراسة فعاليتها.

4- يتم في مراكز مصادر التعلم تدريب أعضاء هيئة التدريس والطلاب على استخدام أدوات التعلم الإلكتروني في قاعة التعلم الجماعي.

◀ 12/26 - 01/02 (102)

◀ 12/19 - 12/26 (21)

◀ 12/12 - 12/19 (13)

◀ 12/05 - 12/12 (4)

◀ 11/28 - 12/05 (2)

◀ 11/21 - 11/28 (2)

▼ 11/07 - 11/14 (1)

أوجه المساعدة التي يمكن لمراكز مصادر التعلم تقديمها...

◀ 10/31 - 11/07 (22)

◀ 10/24 - 10/31 (19)

◀ 10/17 - 10/24 (11)

◀ 10/10 - 10/17 (11)

أعتقد ان من اهم معوقات التفاعل المدونة بوجهة نظري

عدم تفاعل المعلم مع المشاركات للمتعلمين
: الصعب التطبيق على كل موضوع بحاصة الطفولة
مات اخرى ، اجد من الصعوبة التفاعل بشكل كامل
لا تلتزمي المدونة بمواضيعها بشكل عام
د ان هناك محفل يجتلي اكون متواصل بشكل دائم

Votes so far: 14

◀ ▶

حدث خطأ في هذه الأداة

جدد ان عليه (1)

رأيك بالموضوع

هذا كمليق واحد:

فهد السواط يقول...

قد يكون كبير عائق التكلفة المادية لعدم دعم الوزارة وتفاعلها

25 ديسمبر، 2010 11:28 م

إرسال تعليق

واستشارات وجميعها تتم في نفس الوقت ، ولكن هل هذه البرامج تملك مقومات ومعايير البرنامج التعليمي الجيد ؟ اعتقد أنها مثل السينيما الذي لا يقوم على أسس وقواعد صحيحة ومتينة فيما لا يؤدي الغرض المطلوب منه أو ينهار ، ولعل الاتجاه إلى إنتاج البرامج بهذه الطريقة يعود إلى عدم وجود فريق عمل متكامل مكون من متخصص في المادة التعليمية ومتخصص في التصميم التعليمي ومتخصص في الحاسب الآلي (مبرمج) سواء في مراكز مصادر التعلم أو أقسام تقنيات التعليم ، إن وجود مثل هذا الفريق وتوزيع المهام والأدوار ينتج عملاً متميزاً ويحقق الهدف الذي يسعى إليه .

(جيد أو جيد 0)

رأيك بالموضوع

هناك تعليقان (2):

majed alrebdi يقول...

عالمك جميل وواقعي أبو معاذ

فمن نطق للبرمجية المثالية ، فلكثر منها لا يصل للمستوى المطلوب فتجد العمل قد استهلك وقتاً وجهداً كبيرين ولكنه يأتي عشوائياً مفككاً.

2 يناير، 2011 12:06 ص

محمد بن ابراهيم الحجيجان يقول...

برنامج تعليمي = يجب ان يكون مبني على سيناريو عرض لمادة تعليمية = قد لا يحتاج سيناريو او مخطط

بالنسبة لأخ ماجد حاول الوصول لبرامج قسم تقنيات التعليم في وزارة التربية و التعليم.

و ستجد الموديل التي ستبني عليه اذا كان هناك عمل مبني على نظرية و اسس لا اعتبره مفككاً.

3 يناير، 2011 12:23 ص

المعلم الذي نريده في عصر العولمة

تابع معايير لتقويم البرمجيات التعليمية

معايير تقويم البرمجيات التعليمية

تقويم الطالب في التعلم الإلكتروني

المختبرات الافتراضية

التربية التقنية المعطوماتية

مشروع المحاكاة لتجارب الطلبة والمختبرات الافتراضية...

الوسائل المتعددة وأهميتها في التدريس

أهمية استخدام الوسائل التعليمية :

المنظور الإسلامي للوسائل التعليمية :

استراتيجية مقترحة لاستخدام الحاسب كوسيلة تعليمية

القرآن الآلي واليات تطبيقه في مركز مصادر التعلم

موقع الكتاب العربي

أهم الملاحظات على التقييم الآلي للسيناريو

الكتاب الإلكتروني ماهية الكتاب الإلكتروني: وصلت...

برامج التدريب ومحاكاة التطور التقني

هل يمكن إنتاج برنامج تعليمي بدون سيناريو ؟

هيا .. تطبق..

المقالب التعليمية

ما التعليم المدمج ؟

بخصوص آخر لقاء

المصادر الرقمية التعليمية

لمحة عن المكتبة الرقمية

أهمية استخدام الوسائط في التعليم