



Fostering Thinking Skills Through Creative Drama with Primary School Children with Learning Difficulties (LD) in Saudi Arabia

Submitted by Arwa Mesfer M. Alharthi to the University of Exeter
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Signature:

*To mum (1960-2017),
To dad,
To all who believe that
‘Strength lies in differences’*

Acknowledgment

I would start with ‘الْحَمْدُ لِلَّهِ’ *Al-ḥamdu lil-lāh...*

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*Thank you all,
Arwa Mesfer*

Abstract

This study aimed to understand how the thinking skills of children with learning difficulties (LD) can be fostered by using ‘creative drama’ in the context of two primary schools for girls in Saudi Arabia. The educational vision of Saudi Arabia Vision 2030 emphasises the importance of the development of skills, such as thinking skills, in addition to knowledge to prepare children for a modern, 21st-century world. Within the Saudi educational system, relatively little attention has been paid to learners with LD, especially with thinking skills as a focus.

The study utilised a design-based research approach involving multiple iterations of creative drama sessions incorporating different thinking skills, designed and co-led by the researcher and the teachers. The participants were 14 children with LD (ages 7 to 12) and two teachers with backgrounds in special educational needs. The study was designed in two phases. Phase One was carried out in School A to test and then revise the initial design principles empirically. The findings of this phase were an advanced version of the design principles, which then guided Phase Two in School B. The main findings of this intervention were introducing the elements of the dynamic and collaborative culture established through the use of creative drama for fostering thinking skills. The findings contribute to the empirical and theoretical field of fostering thinking skills using tested design principles for utilising ‘creative drama’ as a medium for teaching.

The data were collected by multiple methods: teacher conversations, participant observations, focus groups, and a research journal. The findings suggest that using creative drama as a medium of learning might foster thinking skills by creating a dynamic and inclusive environment. Moreover, promoting the thinking skills of children with LD requires a balance between the facilitator’s role and the learners’ agency. It also requires a collaborative learning culture that supports the children emotionally and provides a safe atmosphere. This DBR concluded that the implementation of creative drama fostered the thinking skills of children with LD and allowed them to practise a variety of thinking skills in a safe, supportive environment and a collaborative culture. By considering the context of the Saudi educational system, this study suggests that there is a need to further investigate a thinking skills approach that supports learners with LD, and suggests the importance of investigating multi-modality and embodied cognition in special education, especially at the primary school level.

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Chapter 1

INTRODUCTION

1.1. General introduction

My first experience teaching was in 2006, when I was a fresh graduate. By the end of my first year of teaching, I was aware of the wide range of responsibilities I had and how they extended beyond the curriculum, especially in the primary grades. This awareness, in particular, developed from my experience with one student, Amal [a pseudonym], a year 5 girl who at that time had been identified as having learning difficulties (LD). As a relatively inexperienced teacher with a general education background, I struggled to meet Amal's needs, and this motivated me to search for, read, and explore the literature in the special education field. One day, I used a giraffe hand puppet in my classroom; after I had introduced the giraffe to the children, it 'asked' them some questions, which seemed to motivate everyone to participate. It was the first time I had noticed Amal engaging with her peers in classroom activities, and that spark I saw in her eyes raised several questions for me for example, what can a teacher provide for learners such as Amal in an inclusive learning setting? How do children with LD think? And most importantly, can thinking be taught?

The question 'Can thinking be taught?' has led me to a new field of interest completely different from the field of mathematics, where I initially began my own studies. In 2008, I began studying for a master's degree in teaching thinking in an inclusive setting. The purpose of my master's project was to explore whether 'creative drama' and storytelling enhanced the thinking skills of children with LD. The study was limited to one primary school in Saudi Arabia and included five participants with LD. I observed the children and the teacher during their activities, and the first thing I noticed was that children with LD seemed to participate freely and cooperated more than usual during the creative drama and storytelling sessions. Over

time, the teacher and I both realised how the use of language could indicate the children's implementation of thinking skills. For example, phrases such as 'because of' and 'I argue' might indicate reasoning skills. I also observed other positive signs, such as the transfer of knowledge from one situation to another. Despite the limitations of the research, I was able to recognise how creative drama seemed to generate an environment that enabled children with LD to participate in groupwork, which, in turn, seemed to have the potential to further enhance their thinking skills and learning capabilities.

I continued to informally research the use of creative drama to teach thinking skills in various educational settings. For example, I implemented sessions with a group of children that included both 'typically achieving' and 'gifted' children. When I compared my findings from the different groups, my conclusion was that the use of creative drama might enhance thinking skills because the teaching method allows the learner to think freely, use his or her imagination, and solve the proposed problems. However, the research also raised many other questions, such as whether, in addition, children with LD can practise their thinking skills in a regular classroom. Can they engage safely and work collaboratively with others? Are they able to communicate their thoughts? Does school provide opportunities for children with LD to develop their thinking skills? Can creative drama help foster their thinking skills? What do children with LD need to practise their thinking skills and interact with their peers in a traditional classroom? As a result of these questions, I decided to focus the current study on children with LD not only on their thinking skills in creative drama but also on their interactions during the sessions and how they demonstrated the use of creative drama behaviourally. Through this research, I hoped to provide a clearer picture of how the thinking skills of children with LD, might be fostered through creative drama.

I have started this thesis by telling my own story because it marks the initiation of my interest in the field of teaching thinking skills to children with LD. The current study aimed to understand how creative drama might foster the thinking skills of mainstream schoolchildren

in Saudi Arabia who have been identified as having LD. The research employed design-based research (DBR) and started by developing a set of design principles based on existing literature about the teaching of thinking skills. The research is separated into two phases: Phase One employed the initial design principles, aiming to ‘test’ these principles empirically to articulate more developed principles, which guided Phase Two. This was done through an iterative process in which the schoolteacher and I planned and implemented several creative drama sessions, each of which targeted thinking skills, followed by reflecting upon each session and refining the design principles based on the outcomes. In Phase Two, the developed design principles were iteratively (by the same process as in Phase One) refined and revised to prompt the thinking skills of children with LD.

In the next part of this thesis, I will present the rationale of the focus of this research. Then, I will define the term LD as used in this thesis. Finally, I will end the chapter with an outline of the thesis.

1.2. Rationale for focus on thinking skills and children with LD

There are several reasons for choosing to focus on both thinking skills and children with LD. The main reason for exploring teaching thinking skills relates to the focus of the Saudi university that sponsored this PhD. At this university, in the preparatory programme year, students are required to attend several courses that aim to provide them with a range of learning and life skills, with a specific focus on thinking skills. Consequently, I was sponsored to specialise in teaching thinking.

The reasons I chose to focus on children with LD at the primary school level were, first, due to my personal experience and my belief that despite all difference in a classroom, all children can learn thinking skills. The second reason lies in the fact that most of the research into thinking skills, especially in the Middle East, focuses on developing these skills for learners who are ‘typical’ achievers (e.g., Shalabi, 2014) or ‘gifted’ (e.g., Alanazi, 2018). In contrast, the number of researchers who have focused on fostering thinking skills in children

with LD is limited (i.e., Khattab, 2006). There are several explanations of why researchers do not associate thinking skills with learners who identified as having LD; these explanations vary depending on the targeted thinking skills. For example, with regard to comprehension and information gathering skills, it could be because children with LD deficit in working memory process (Swanson & Gansle, 1994) which create the difficulties for the students with LD to actively process the new information, storing it and recall it when its needed (Mastropieri et al.,1996). Other possibilities could be because children with LD can experience difficulties reasoning (Northern Ireland Education Department, 2011), which means that their reasoning process is limited without coaching and prompting (Mastropieri et al.,1996). Even though, Mastropieri et al. (1996) and Khattab (2006) agreed that to facilitate students' with LD independent use of thinking skills (e.g. reasoning strategies) there needs to be an extensive and focused training that based on active coaching and prompting.

Regarding the use of 'creative drama', as a Saudi citizen, I think that with the new 'Vision 2030' for the county introduced by the Saudi government in 2016, educational research has to fulfil the desire to produce independent and entrepreneurial citizens. Vision 2030 is about transitioning the Saudi economy from depending on oil resources to be more balanced; thus, it stresses the need to 'prepare a modern curriculum a modern curriculum focused on rigorous standards in literacy, numeracy, skills and character development' (Vision 2030, 2016, p.40). The success of the vision requires shifting the 'norm' of education to be more suited to meeting the new generation's requirements. As a Saudi citizen, to make these changes and achieve the vision, the assumptions, attitudes, and beliefs of anyone involved in the learning process (children, parents, teachers, and stakeholders) have to change, because these elements are what shape the learning process. Art and creativity as subjects or even as a general focus, are currently limited to some private schools, so there would seem to be a need to explore these subjects and approaches to teaching within the Saudi context. Although some educational drama activities might be implemented by teachers (e.g., role-play) as part of classroom

activities, especially in kindergarten and at the primary school level, they are only used with an academic focus. Educational literature shows that creative drama might be beneficial to foster specific skills (Cahill, 2014; Thang, Sim, Mahmud, Lin, & Ismail, 2014). ‘Creative Drama’ is an unrehearsed drama founded on improvisation, imagination, play, and collaborative work. Moreover, it is used as a teaching approach that can be subject-related (Ersoy, 2014; Timothy & Apata, 2014) and can be used to teach other languages (Muszyńska, Uрпи, & Gałazka, 2017). Most of this research indicates that learners’ cognitive functions are affected by the use of creative drama, even when the focus is not on fostering thinking. However, without underestimating the contribution and significance of this research, the current literature is limited regarding the practice of creative drama to teach thinking skills to children with LD. As a result, I have focused on understanding the use of creative drama in teaching thinking skills to children with LD.

1.3. Learning difficulties: terminology and definitions

In different countries defining learning difficulties is complex (Kelly & Norwich, 2013), perhaps resulting from the different terminology used across the special education literature and in different countries. This section will start by providing an overview of the terms used in the literature. Then, I will discuss relevant definitions for this research with primary school children.

In Saudi Arabia, the teachers’ guide published by the Department of Learning Difficulties stresses that learning difficulties in the Saudi educational system are not ‘educational retardation’ (Ministry of Education, 2015). ‘Educational retardation’, according to the teachers’ guide, is slowness or delay in student progress that could be in one or more areas of the curriculum. Since 2002, the Ministry of Education, through the Regulations of Special Education Institutes and Programmes (2002), has adopted the American definition of learning disabilities as contained in the Individuals with Disabilities Education Act (IDEA). The Ministry recently cited this US definition in the teacher guide : ‘a disorder in one or more of

the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. The term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage' (Ministry of Education, 2015, p. 27). Within the Saudi educational system, there are two categories related to the term 'learning difficulties': academic learning difficulties, where one or more subjects are affected (e.g., dyscalculia, dysgraphia, and dyslexia), and developmental learning difficulties, which are related to language and mobility. However, within the schooling system, there is no specification in terms of a 'label' for children; to teachers, both are children with learning difficulties. It is worth pointing out that the adapted IDEA's definition was recently changed in the United States to refer only to specific learning disabilities (i.e., dyslexia) as a category of learning disabilities (Cortiella & Horowitz, 2014).

In England, the definitions of learning disabilities are not all clear (Alqallaf, 2015) but the categories are apparently clearer. According to the Special Educational Needs and Disability (SEND) code of practice (DfE/DoH, 2015), 'cognitive and learning' is one broad area of SEND and this is where categories of learning difficulties are situated. These include: specific learning difficulties (e.g., dyspraxia and dyslexia), where one or more aspects of learning are affected; and general learning difficulties which are subdivided into moderate learning difficulties (MLD), where the child shows accomplishment well below the expected level of achievement in most areas of the curriculum; severe learning difficulties, where all areas of the curriculum are affected, and which is usually associated with other difficulties (e.g., communication); and finally, profound and multiple learning difficulties where there are also additional difficulties associated with sensory or physical disability (DfE/DoH, 2015).

In England, children with LD are the largest group of pupils in the field of special education (Callander & Buttriss, 2010) and in Scotland as well (Moscardini, 2010) and account for 21.6%

of all pupils with moderate learning difficulties in the England (DfE, 2018). Nevertheless, the literature on LD is neglected compared to other areas of special needs education (Norwich, Ylonen, & Gwernan-Jones, 2012).

Children with LD experience delays in their academic progress compared to their peers. These cognitive delays in their development are associated with speech, language, communication, emotion, and self-esteem (Moscardini, 2010; Norwich et al., 2012). According to the ‘resource file for special educational needs’ (Northern Ireland Education Department, 2011), barriers often faced by children with LD include

- Difficulties with conceptualising and understanding abstract concepts
- A lack of logical reasoning
- An inability to transfer and apply skills to different situations
- Poor fine and gross motor skills
- A difficulty with personal organisation
- Poor auditory/visual memory
- Poor long- and short-term memory
- Non-compliant and oppositional behaviours
- A lack of awareness or responsibility for the consequences of actions (p. 229).

There is no single universal agreement on the definition of learning difficulties, and different terms are used even in countries that share a common language (MacKay, 2009). For example, the term ‘learning disability’ in the United States refers to learners identified with learning ‘disabilities’ or ‘disorders’ (LDA, 2018), whereas in the United Kingdom, the term ‘learning disability’ is used to identify adolescent learners or adults (Northern Ireland Education Department, 2011) whilst the term ‘learning difficulty’ is used in the Children and Families Act (2014) to refer to school-age children and young learners. What adds to the complexity is that, according to Hardie and Tilly (2012), practitioners, researchers, and stakeholders in the United Kingdom and United States use the terms ‘learning difficulties’ and

‘learning disabilities’ interchangeably in contexts such as education and health. Despite the inconsistencies in terminology, as mentioned, both countries use English as their common language, and the word ‘difficulty’ is not always a synonym for disability. This research is based on an Arabic context, and the Saudi educational system uses the American definition of learning disabilities (to some extent), as previously explained. The term learning disabilities translates into Arabic as *So’ubat Al-tall’m* (صعوبات التعلم), where *So’ubat* means ‘difficulties’ and *Al-tall’m* means ‘learning’. When translated back into English it translates as ‘learning difficulties’ (Albattal, 2006; Al-Hano, 2006; Alharthi, 2011; Bazan, 2003).

This research targeted children who are facing difficulties across one or more subjects and whose accomplishment is below the expected level of their peers. So, synthesising the previous definitions and categories, this research’s focus was children with MLD (in English terminology), although I will refer to them as having learning difficulties following the Saudi term.

1.4. Organisation of the thesis

This thesis consists of five chapters, as follows:

- **Chapter 1:** Introduction

It presents the rationale behind the study, the definition of children with LD, my background as a researcher, and finally the organisation of the thesis.

- **Chapter 2:** Literature review

In Chapter 2, I present sociocultural theory as the theoretical framework for this study. I provide a brief overview of various perspectives on thinking within this theoretical perspective that have led to the sociocultural perspective, and I present some key concepts of thinking that have been developed within this framework. This research focuses on fostering thinking skills through creative drama, which I cover in Chapters 2. Thus, it aims to evaluate and summarise a number of aspects related to thinking and thinking skills, focusing on definitions that relate

to learning and teaching. This is done by first explaining the different perspectives on thinking while bearing in mind that the underpinning theoretical perspective for this research is sociocultural theory. I then provide a brief overview of the various thinking frameworks that have led to the adoption of Moseley et al. (2005) as a working framework while designing the data collection sessions and activities. This is followed by a section that focuses on thinking skills in education, with an emphasis on special education, to gain a clear understanding of what is meant by the terms ‘thinking’ and ‘thinking skills’ in this study. Section 2.12 I starts by reviewing the definitions and terminology around creative drama in education. I also provide empirical evidence of the role of creative drama in supporting both teaching thinking skills and special education. After that, I discuss the current research project, starting with an explanation of the rationale for the research, its aims, and the research questions. This study employs design-based research as the methodology, and this chapter of the thesis also introduces the initial design principles for creative drama as a medium for teaching thinking skills and how these were based on the existing literature.

- **Chapter 3: Methodology**

I start by discussing the philosophical underpinnings and methodological approach of this study. This is followed by the research design and how the two phases of the research were implemented. Moreover, in this chapter, I present and discuss the participants and the research context. Participants’ characteristics in both phases of this DBR are provided. Following this, I discuss the choice of data collection methods and the reasons for my decisions. After a brief description of the procedure, I explain the data analysis approach and the rationale for it. I also present the ethical considerations and the quality assurance procedures employed. This chapter ends by offering some limitations of DBR study.

- **Chapter 4:** Procedure, findings, and analysis

Because of the extensive amount of information, each section of this chapter has its own introduction and conclusion. After presenting a list of the initial design principles, Section 4.4 and 4.9 focus on Phase One's general procedure of data collection, followed by an analytical illustration of the focus group for this iteration. I then highlight the key finding that informs the refinement of the design principles for the following interaction. Consequently, Section 4.8 refines the design principles based on the findings from Iteration One. As in Section 4.4.1 and Section 4.9.1, are include an extensive description of the cycles, followed by an analysis of the focus group, while discussing to some extent the key findings of this iteration. Section 4.11 focuses on Phase Two and starts by comparing the design principles in the two phases, illustrating the rationale behind the changes between them. The developed version that guides the enactment of this iteration is presented. This is followed by a description of the only iteration of Phase Two, including the cycles and the analytical interpretation of the focus group. After that, I discuss the key characteristics of creative drama based on the finding of this iteration. In Section 4.18 and Section 4.19, the goal is to present the findings of the two phases in different aspects guided by the main research question and sub-questions. I will provide with a summary of the findings, then presents and discusses them, focusing on thinking and thinking skills in accordance with the aim of this research. This is followed by indicating how children with LD demonstrated the practice of these thinking skills in the context of creative drama. Moreover, this chapter provides an illustration and discussion of the findings as a whole, with a particular focus on the children with LD who participated in both phases of this DBR. Chapter 4 concludes with a presentation of the final version of the design principles and how these principles might help teachers.

- **Chapter 5:** Discussion:

Based on the findings of this design-based project, Chapter 5 offers a discussion about the possible contribution creative drama can make to teaching thinking skills in Saudi Arabia, particularly for children with LD in the primary school context. I offer the contributions made by this study to the research field and reflect on theoretical implications, followed by a summary of the methodological and practical implications together with suggestions and recommendations for future research.

- **Chapter 6:** The Conclusion :

Chapter 6 offers a summary of the research findings, followed by the contribution to knowledge of this design study. It also provides methodological and practical reflections and implications, as well as the strengths and limitations of this study. This chapter will conclude with some final remarks.

Chapter 2

LITERATURE REVIEW

2.1. Introduction

This thesis defends the perspective on learning and developing that both are naturally associated with the social context in which they occur. Relying on the sociocultural perspective, learning is not an individual cognitive process but a process between the individual and his or her social context. Therefore, the focus of this study revolves around the description of the interaction processes between children identified as having learning difficulties (LD) and their social context. Within the sociocultural framework, the importance of understanding how thinking can be developed and constructed through interactions, how that could contribute to the individual's learning process, and how both teachers and learners reach an understanding of a phenomenon are not new topics (see, for example, Mercer, Wegerif, & Dawes, 1999; Wegerif & Mercer, 1997; Wegerif, Mercer, & Dawes, 1999). This study is in line with this framework, and it aims to understand the contribution of the learning context to the learning process, particularly thinking skills, of the children identified as having LD.

This study explores how thinking skills are constructed among children with LD in a context of creative drama in primary school education. As a basis for such exploration, it is necessary to understand how the components of this research fit together within the well-explained sociocultural perspective. There are two main components of this research: First, fostering thinking skills, which is the main focus of this research study and can be located within learning and development theory; and second, the use of creative drama as an intervention. If creative drama is the learning medium for thinking skills which is a collaborative approach, the interaction between creative drama and thinking skills raises a question: Is thinking individual or social? Researchers have discussed this question across the literature on teaching thinking. For example, Wegerif, Li, and Kaufman (2015) argued that the

tradition of teaching thinking has mainly focused on the development of the individual, even if the teaching approach has not.

This chapter analyses the relevant theoretical and empirical literature of the three components of this research: thinking skills, creative drama, and children with LD - with the focus of Saudi Arabia as the context. It starts by introducing thinking as a sociocultural phenomenon by outlining various views on the aforementioned question before discussing in detail the sociocultural perspective and why it underpins the current research. The structure of this part of this chapter will be as follows First, I will answer the question, ‘Is thinking individual or social?’ to set out the theoretical context of this study. Then, in Section 2.3, I will give an overview of the sociocultural perspective as a theoretical framework, leading to a discussion of the nature of thinking. This is followed by a justification for choosing a sociocultural perspective as the study’s theoretical framework. Drawing upon sociocultural theory, language is an essential mediating tool in the individual’s cognitive development. Therefore, in Sections 2.4, I will discuss the dialogical approach to learning and development and the role of dialogue in the collaborative construction of knowledge, skills, and meaning. I also include a brief discussion of the theory’s implications for the current research.

Moving from the theoretical to the empirical literature, this chapter will include a section on thinking skills in education, with an emphasis on special education, in order to obtain a clear understanding of what I mean by the terms ‘thinking’ and ‘thinking skills’ in this study. My deep assumption is that, understanding all the elements of learning and developing thinking skills for children identified as having LD, might help in designing a pedagogical approach that supports children with LD in learning thinking and enhancing thinking skills. This starts with exploring the notion of thinking skills and differentiating between thinking and thinking skills (see Section 2.5), followed by defining the concept of ‘thinking skills’ and what this term refers to in this thesis. After that, I will discuss perspectives on thinking skills via introducing a framework for thinking skills as a resource for the current research to make explicit a

vocabulary with which to explain aspects of thinking that are relevant to this research context. This is followed by an overview of teaching and learning thinking in Saudi Arabia and a summary of the chapter.

The last component of this research focus is the ‘creative drama’ and how it been used in the field of teaching and learning thinking skills. Thus, the last part of this chapter aims to introduce creative drama as a learning medium by discussing its role in teaching and learning. It starts by giving an overview to define creative drama, Section 2.11, mainly as a working definition for this thesis. Then, it discusses the empirical literature to understand how creative drama might influence the research design, particularly in terms of fostering thinking skills in children with LD. The chapter ends with an overview of this research study, combining all the discussed literature and offering a full picture of this study’s significance, the research question, and the initial research design principles.

2.2. Is thinking individual or social?

Historically, the thinking skills movement tended to focus on the development of the individual (Wegerif et al., 2015). However, practical approaches related to thinking skills have emphasised interaction and the role of the environment. Examples of these approaches include the ‘thinking classroom’ (McGuinness, 1999), ‘thinking-based learning’ (Swartz, Costa, Beyer, Reagan, & Kallick, 2008), ‘philosophy for children’ (Lipman, 1981 & 2003), and most recently, the ‘thinking school’ (Burden, 2015), demonstrating a link between an individual and his or her environment, thinking and interactions. According to Wegerif (2010), the metaphor for thinking adopted by the researcher guides the process of choosing the practical approach for teaching thinking and determines the questions that are asked. For Howie (2011), the belief system of the teacher is a general principle in teaching thinking that guides decision-making about the practical approach; for her, the metaphor for thinking is ‘obtainable ability’. In her book *Teaching Students Thinking Skills and Strategies: A Framework for Cognitive Education in Inclusive Settings*, Howie (2011) argued the importance of believing that all children are

able to learn and adapt their cognitive functioning while realizing that there will be some individual differences during this process for teachers who aim to teach thinking skills in inclusive settings.

In the past, thinking was seen as a characteristic of the individual. Piaget's (1959) work defined the intellectual development of the individual as the process of subjective construction, whereby the individual constructs new information from previous knowledge through inner mechanisms such as assimilation, accommodation, and equilibration. Piaget saw the progress of the child's cognitive development as a series of stages that are applicable across all cognitive problems (KleineStaarman, 2009). However, there has been a major shift in philosophy and psychology toward considering thought as a social rather than an individual process (Wegerif, 2002). This perspective accords with research within the sociocultural paradigm (Alnesyan, 2012). In addition, there is increasing agreement that thinking includes a collaborative aspect in the form of individual participation within collaborative thinking (Rogoff & Toma, 1997). More recently, there has been significant interest in research on collective or group thinking (Woolley, Chabris, Pentland, Hashmi, & Malone, 2010; Wegerif et al., 2015), which has unique features that can be measured (Woolley et al., 2010). The concept of group thinking depends on communication (Woolley et al., 2010) that is linked to an intervention or the use of tools such as technology (Knight & Littleton, 2015). Furthermore, Schwartz and Slakmon (2015) illustrated how, within the collective thinking phenomenon, teaching can change the culture of the classroom through interventions that address the shared culture of communication. Moreover, teaching group thinking allows a focus on teaching thinking at both individual and group levels (Howie, 2011), which are, according to Wegerif et al. (2015), 'not incompatible' processes (p. 6).

The sociocognitive and the sociocultural approaches agree on the role of social interaction in the construction of knowledge (KleineStaarman, Krol, & Van der Meijden, 2005). Moreover, both perspectives maintain that social interaction provides rich opportunities for

individuals to encounter others' perspectives (Glassman, 1995). Both perspectives (individual and social) are needed to understand something complex as thinking skills in education. In this regard, whether thinking is an individual property or a social property, the integration of the two types of properties provides suitable opportunities for teaching and learning thinking that can be applied in an intervention.

2.3. The sociocultural perspective on thinking

Understanding the individual's capacity for thinking was the impetus behind Vygotsky's work to develop a comprehensive historical psychology of the concept of development (Smagorinsky, 2013). Vygotsky's concept of development has influenced the field of education generally, but more importantly, it has influenced studies aimed at understanding how people learn to think (Howie, 2011; Rogoff, 1990). The sociocultural perspective provides an explanation of how thinking can be developed through participation in social activities. However, to understand the sociocultural perspective and the epistemological stance behind it, it is important to look at the background of its founder and the political environment during the time of its founding. Lev Vygotsky (1896–1934) was a Russian psychologist who began to work shortly after the Russian Revolution, which replaced czarist rule with Marxism, a philosophy that 'emphasizes socialism and collectivism' (Fani & Ghaemi, 2011, p. 1,549). Under Marxism, individuals were expected to work for the improvement of the larger society. Marxists also emphasized the role of history, understanding cultures through examination of the events that had shaped them (Fani & Ghaemi, 2011). Vygotsky combined these characteristics in his model of child development, which saw the individual's thinking as a result of his or her culture (Alnesyan, 2012; Fani & Ghaemi, 2011; Smagorinsky, 2013).

This sociocultural paradigm of learning views cognitive development as both an 'interpersonal and intrapersonal process, mediated by cultural tools and artefacts' (KleineStaarman, 2009, p. 29). According to this view, the individual's higher mental functions originate in the social context and appear twice, first on the social level between the people

(intrapyschological) and later on the individual level inside the child (interpsychological) (Vygotsky, 1978). In the sociocultural perspective, an individual only develops mentally if he or she participates in social practices (Lave & Wenger, 1991). This is in contrast to cognitive theory, which, while complementary to socio-cultural theory (Glassman, 1995), emphasises that language and cognition are separate (Säljö, 1995). Cognitivists tend to credit the importance of social interaction in the individual's cognitive development, but less so than sociocultural theorists tend to do (Bodrova & Leong, 2015; Cole & Wertsch, 1996; DeVries, 2000). Glassman (1995) argued for harmony between both perspectives and explained how they might be complementary. The core difference between the two theories lies in how they understand the direction of the child's development (Cole & Wertsch, 1996; Glassman, 1995). For the Piagetians, the direction moves from the interpersonal to the intrapersonal, whereas for the Vygotskians, the direction is the inverse (Cole & Wertsch, 1996).

The central idea of Vygotsky's theory is that an individual's thinking is suffused with social thinking; therefore, cognition is a social construction (Robbins, 2005). Vygotsky saw cultural tools as important to constructing meaning and orientation; cultural tools 'assist in mastering thinking (e.g., signs, symbols, text, formulae and graphic-symbolic devices)' (Howie, 2011, p. 61). Thus, the relationship between learning thinking skills and cultural tools might indicate that thinking can also be learnt via tools for thinking that are used within the learning or sociocultural, context (Alnesyan, 2012). Cultural tools are more than signs and symbols to support the individual's cognitive development—they are essential to creating new knowledge. When thought of as 'tools for thinking', cultural tools become the mediators that help the individual to construct knowledge and learn thinking skills.

Wertsch (1991) summarized Vygotsky's work as three major assertions or themes that can be seen as fundamental to the sociocultural paradigm. The first assertion, Vygotsky's 'generic law of cultural development', is the directions for the individual's cognitive functions within the social context. As mentioned previously, in the sociocultural perspective, the individual's

mental development is embedded within his or her culture; it never can be understood without understanding the social context (Cole & Wertsch, 1996; Wertsch, 1991).

Vygotsky (1978) explained the relationship between social interaction and the cognitive development of children by introducing the Zone of Proximal Development (ZPD), which encompasses the difference between the individual's actual and potential levels of performance (Vygotsky, 1978). The ZPD concept not only explains the dynamic interaction, i.e., the interaction between the child and adults or peers, but it outlines how to assess the child's development within the ZPD (i.e., the role of play) (Howie, 2011). In addition, in ZPD theory, what the child might bring to the interaction is important to the process, as is how the interaction process is shaped by the social context. One very interesting recognition of how ZPD might be used to support inclusion was made by Brown et al. (1993). Brown et al. (1993) described the classroom as composed of a ZPD through which children might navigate on different routes at different levels, a description that might explain how the ZPD can be inclusive of people with various levels of ability (i.e., children and experienced adults). In addition, the classroom might include a variety of artefacts, such as books, videogames and computers. In light of this, the ZPD might also host a number of mediations, discussed by Vygotskian research, that might develop the child's cognitive abilities by creating an active environment that includes 'the use of imitation' (See for example Rogoff, 1990; Vygotsky, 1978), 'the role of play' (O'Neill, 2008; Vygotsky, 1966, 1978), 'scaffolding' (Beyer, 1997; McGregor, 2007), and 'the role of emotion' (Kozulin & Gindis, 2007; Vygotsky, 1986). Inherent in this perspective is that the construction process requires not only an active child but also an active environment (KleineStaarman, 2009).

Vygotsky's second major theme is this active environment, as identified by Wertsch (1991). In other words, human action, on both social and individual planes, is mediated by tools and signs and semiotics. Therefore, Vygotskian theory emphasises the collaborative, participatory, and co-constructive nature of teaching thinking (Howie, 2011). As the previous

discussion shows, the link between this second theme and the first theme is very strong. Mediation plays a central role in framing this research; therefore, the role of mediation and its active nature will be discussed in more detail in a later chapter.

The third theme that Wertsch (1991) proposed from Vygotsky's work is that the first two themes are best examined through genetic analysis. The sociocultural perspective assumes that the only way to understand cognitive functions is to understand their origins and the changes to them. According to Wertsch (1991), three combined elements are essential to a developmental analysis of Vygotsky, including the individual's use of tools (i.e., use of language), incorporating a sociocultural level of analysis, and the temporal influence of culture on development.

In light of this discussion, I will conclude this section by noting that the sociocultural perspective provides an understanding of how an individual's mental functioning is related to his or her cultural and historical contexts. Furthermore, participation in social interactions and culturally organized activities plays a significant role in influencing a child's cognitive development.

2.4. The dialogical perspective on developing thinking

2.4.1. The complementary work of Vygotsky and Bakhtin

This section aims to discuss the key associated concepts that will help understand the dialogic perspective. The social nature of an interaction may be realised in speech, which is often the means of interaction. Therefore, the commonly discussed way to comprehend the extension from Vygotsky's concept of learning development to Bakhtin's dialogic perspective is through the role of language, speech, and thinking within a social context. Many discussions of differences and similarities between Vygotsky and Bakhtin have focused on that particular line of interaction (e.g., Gurdin, 1994; Wertsch, 1991, 1995). Both scholars took into account semiotic mediation; Vygotsky attempted to theorise the development of cultural artefacts within specific activities through the cultural mediation, where Bakhtin's dialogic perspective

provides ‘a situated socio-cultural account of semiotic mediation’ (Daniels, 2016, p. 23). From this point of view, I agree with Wertsch (1995): Bakhtin’s idea of dialogue complements and extends Vygotsky’s theory, which provides a further contribution to social science. To understand this complementary notion, and for the sake of approaching a cohesive understanding of the theoretical framework of this thesis, this section distinguishes between Vygotsky’s and Bakhtin’s understanding of the concept of thinking development.

Based on the discussion in Section 2.3, the connection between the social environment of an individual and the formulation of his or her cognitive development is always present in Vygotsky’s work (Bruner & Bornstein, 1989), especially in his concept of the ZPD. One way to understand Vygotsky’s concept of ZPD is as a space where the interactions between the inside (intra-mental) and the outside (inter-mental) are influenced by culture, history, and social work (Bruner & Bornstein, 1989). Consequently, it is not a fixed zone but a ‘reductionist conception’ that varies from one culture to another and channels the transference of abilities from the group to the individual (Fernandes, Carvalho, & Campos, 2012, p. 98). This explanation emphasises the multiple voices of knowledge construction, which are not necessarily allocated within the child’s mind (Daniels, 2014). Consequently, it emphasises that the development of thinking does not have a natural meaning but a cultural and a social one (Fernandes, Carvalho, & Campos, 2012).

Moreover, adopting this understanding implies that all individual cognitive and psychological functions, including language, are socially, historically, and culturally situated, and they are ‘context-specific’ (Cole & Wertsch, 1996, p. 252). In contrast, there is the understanding that the ZPD is the distance between the actual potential levels of development within the interaction between a child and the more capable or knowledgeable participants in a context (Bruner & Bornstein, 1989). Thus, understanding a child’s cognitive development, the adult should determine the highest ability of the children and be part of development

process, which contradicts with the understanding that the children's capabilities to learn or achieve any task without assistance (Daniels, 2014; Fani & Ghaemi, 2012).

To overcome this understanding, Wertsch (1985) extended Vygotsky's ZPD to Bakhtin's text-semiotic mediation. However, according to Wertsch, in a ZPD, there is a mutual understanding of a learning situation (intersubjectivity) between the participants. Within this learning situation, a child can experience how the more capable or knowledgeable participant within the ZPD understands a situation, which is, according to KleineStaarman (2009), a 'moment of intersubjectivity' (p. 34). However, at this moment, a child will be able to learn through the experience because he or she individually understood the situation based on the interaction with the understanding of the more capable or knowledgeable participant. This definition of ZPD disputes a dialogic viewpoint on the use of language in interaction, which is Wertsch's extension of Vygotsky's work. Wertsch's synthesis of Bakhtin's and Vygotsky's work is fruitful and has potentials to the cognitive field, even though it could be problematic.

In Section 2.3, I have explained how thinking is defined as a cultural tool and how it is a mediated action in which the individual's actions are based on the mediational means (Wertsch, 1991). However, in exploring the relationship between social communication and an individual's development, Wertsch highlighted the role of language in human thinking, action, behaviour, and dialogical communication (Daniels, 2001, 2016). There is a misconception about the authorship of the contributions of the role of language associated with Bakhtin; however, in line with Wertsch's work, I will refer only to Bakhtin while discussing the dialogic perspective. The next section will explain the meaning of dialogue in the context of the relationship between thinking and language.

2.4.2. The dialogic perspective

In line with Section 2.2, I will use Bakhtin's understanding of dialogue not only to present the acceptance of shifting individual thinking to be defined as a situated social activity, but I will start arguing that within the sociocultural perspective, thinking and thinking skills can be

learnt and developed (Wegerif & De Laat, 2011). More evidence to support this argument will be discussed in Section 2.5 and 2.6.

Bakhtin's dialogic perspective is often presented to articulate the social situatedness of cognition within the sociocultural tradition (Wegerif & De Laat, 2011). That is because his work is mainly concerned with the role of language as a tool for thinking (Wegerif, 2006). He was the first to stress the importance of the 'utterance' as a fundamental part of speech communication (Wegerif, 2006; Wertsch, 1991). According to Bakhtin's principles, the relationship between language as a cognitive tool and context is reflexive (Linell, 1998) in a way that implies that the meaning of an utterance is limited only to the context of the dialogue (KleineStaarman, 2009). That said, utterances cannot be isolated, and they are contextualised by the conditions of the social context in which they occur (KleineStaarman, 2009). Moreover, because language is a thinking tool, Bakhtin supported the claim that cognition occurs within dialogue, where utterances in this dialogue have a particular meaning and implications situated within the circumstances of the dialogue (Wegerif & De Laat, 2011). However, if an utterance's meaning is given by its location within a dialogue (Wegerif, 2006), then it is important for the person who wants to understand the meaning of the utterance to understand not only the location of the utterance within the dialogue but all the complex dimensions of its context (Brandist, Gardiner, White, & Mika, 2017; Wegerif & De Laat, 2011); Bakhtin defined the meaning of dialogue as the 'product of interaction of perspectives' (Wegerif & De Laat, 2011, p. 317).

A dialogic approach to language and cognition can be perceived as extending the sociocultural perspective by its 'emphasis on the dynamic and interactive nature of the social construction of meaning within dialogue' (Wegerif & Mercer, 1997, p. 58). The term 'reflexivity' was used by Gee and Green (1998) to illustrate the dynamic notion of giving meaning to language (and getting meaning from it) within a social context. According to them, reflexivity is 'the way in which language always takes on a specific meaning from the actual

context in which it is used, while, simultaneously, helping to construct what we take that context to mean and be in the first place' (Gee & Green, 1998, p. 127).

Based on this understanding, the notion of context should not be defined as fixed in order to understand the dynamic process of establishing a joint understanding of phenomena. Within interactions, individuals define and renegotiate the context continuously (Mercer, 2000). Therefore, in order to foster thinking skills, the dimensions of the context in this thesis are flexible, and the notion of it can vary based on the participants' interactions, creation of meaning, and interpretation of a situation.

Thinking usually occurs in dialogue (in/outside the mind) (Wegerif & De Laat, 2011). Moreover, because the meaning of a dialogue, as mentioned before, is situated in its context, dialogues, even superficial, often have indefinite possibilities of meaning (Bakhtin, 1986). Bakhtin (1986) pointed out that a dialogue (either spoken or written) can be more or less dialogic, which means that it is more or less multi-voiced and open to other interpretations (Wegerif & De Laat, 2011). For each party in a dialogue, the voices of others are outsider perspectives that are incorporated within the dialogue (Wegerif, 2006). Drawing upon that, if the dialogue has multiple directions, then, according to Wegerif (2007), a direction of dialogue 'from being relatively closed to being relatively open' (p. 99) is the new basis of understanding the teaching and learning of thinking skills (Wegerif & De Laat, 2011).

Wegerif (2007), in his book *Dialogic, Education and Technology: Expanding the Space of Learning*, argued that thinking could be taught by improving the quality of dialogue within a learning process or where the learning occurs (i.e., classroom talk). Wegerif described this definition of dialogue as a shift in identifying the 'space of dialogue', and he argued this space is 'the primary thinking skills' from which other thinking skills (e.g., critical and creative thinking) develop (Wegerif, 2007, p. 77). If the space of dialogue is characterised by the perspectives (Wegerif, 2006) and it emphasises the differences between perspectives (Wegerif, 2007), then this implies that the space of dialogue has no boundaries because, as people speak

or think, they are already within the space of dialogue and form a dialogic space. In contrast, the concept of ‘space’ of dialogue could be the smallest possible unit of ‘meaning’ in dialogue. ‘there are two ways of approaching the same limit idea, which is the idea of the context of thought’ (Wegerif, 2007, p. 138). This approach to understanding the context of thought offers a useful framework for learning and developing general thinking skills because, according to Wegerif (2006), the boundary of the dialogue context becomes better able to remain in the various, multiple, and creative spaces of dialogue. Thus, in this thesis, since the focus is on the development of general thinking skills among children identified as having LD, I adopt this ‘spaces of dialogue’ as one of the principles of the development process. In the following section, this dialogic perspective will be applied in discussing empirical studies on learning and developing thinking.

2.5. Thinking and thinking skills

Identifying terminology and concepts with some reliability is essential for educational research in order to describe aspects of an educational experience across a range of learning contexts (Moseley et al., 2005). Without some clarity, it might be impossible to understand the full picture, to measure aspects of components, to evaluate the impact of strategies, and to come up with a clear answer to any question. Thus, this part of Chapter 2 summarises and evaluates a number of thinking skills and aspects of thinking skills, mainly focused on definitions that relate to learning and teaching. This will be achieved by first discussing different perspectives on thinking, while keeping in mind that the theoretical perspective underpinning this research is the sociocultural paradigm, as explained in the previous chapter. However, across the literature of thinking and of teaching thinking, it is well known that there is no clear definition of thinking skills or of what designates skilful, good or high-quality, and effective or sufficient thinking (Lipman, 2003; McGregor, 2007; Moseley et al., 2005). Having said this, there are common characteristics of thinking skills to be found across a variety of definitions, and

therefore the following section will explore and discuss several definitions in order to reach a suitable definition for this study.

2.6. Exploring the notion of thinking skills

There is good evidence that organisations or communities are more successful and consistent in their relationships when they involve their members in decision-making and problem solving (Moseley et al., 2005)—simply, when they ‘think together’. In fact, ‘thinking together’ is the name of an approach to teaching thinking developed by Mercer and his colleagues (1996, 2013), (see for example, Littleton et al., 2005; Wegerif, 2006; Wegerif, Linares, Rojas-Drummond, Mercer, & Velez, 2005). Thinking together as an approach is driven by the educational principles demonstrated by Vygotsky’s work (Mercer, Hennessy, & Warwick, 2017). In particular in relation to sociocultural perspectives and the use of language as a thinking tool (Wegerif, 2010). Studying the development of thinking is not new: a range of academics have considered, examined, and evaluated thinking as a human experience since Socrates’ time (Alnesyan, 2012; Moseley et al., 2005). There is a comprehensive understanding of thinking at individual and cultural levels—as well as from philosophical, psychological, and sociological perspectives. Each of these has a different stance; for example, philosophy usually views thinking in terms of theory of mind (Mercer, 1995; Moseley et al., 2005), whereas, in psychology, thinking is often about human cognitive development in terms of teaching and learning (Taggart, Ridley, Rudd, & Benefield, 2005). In sociology, thinking is a valuable cultural tool that occurs in a system (e.g., workplace, educational practice) (Lipman, 2003; Moseley et al., 2005). Each of these views has influenced a massive amount of work and the creation of a variety of resources for teachers, and trainers who are interested in teaching and developing thinking.

It is only during the last two decades that the huge interest in the teaching of thinking has appeared as a daily educational practice (Wegerif et al., 2015). For example, Bloom (1956), in his pioneering work, influenced many psychologists and educationalists in conceptualising the

meaning of cognitive development and associated processes, especially in the UK and the United States (Moseley et al., 2005). The implementation of Bloom's work led to a 'search for new curricula and pedagogies' (Moseley et al., 2005, p. 15) that aimed to stimulate more productive thinking; however, the interest is worldwide nowadays. As aforementioned, different perspectives have provided a wider view; these different perspectives are known in the thinking literature as 'metaphors of thinking' and have been discussed by many authors, for example, Wegerif (2010), in his book *Mind Expanding: Teaching for Thinking and Creativity in Primary Education*. According to Wegerif, there are three key metaphors. The first one, 'thinking as machine', refers to the way in which psychologists define thinking as 'an internal, mental process' (Moseley et al., 2005, p. 15), which is a result of Piaget's perspective on development (Moseley et al., 2005). From this perspective, thinking constructs and operates on mental models of information. Thagard (1996) described six methods to represent the mind: logic, rules, concepts, analogies, images, and neural connections. For Thagard, thinking is like a computer: the mental representation is the organisation of the machine, while the modelling approaches are the algorithms of the software. However, Wegerif (2010) argued that this dominant 'thinking as computer' model has failed in terms of understanding how an individual promotes good-quality thinking. For example, an open-ended question that ends with a complex dialogue does not fit in with the computer program analogy because there is no clear, exact answer for such questions.

The second key metaphor of thinking is associated with philosophical perspectives: the theory of mind (Mercer, 1995), or, as Wegerif called it, 'thinking as the activity of the brain' (Wegerif, 2010). Wegerif (2010) argued that thinking is correlated with brain activity; in contrast, observed brain activity does not model thinking, which emphasises the complexity of understanding human thought within an educational setting. Moreover, McPeck (2016) argued that thinking is context-specific, which means that it is not applicable from one context to another. In contrast, other educational philosophers have argued that there are general thinking

skills that can be taught, learnt, and applied from one educational setting to another (Ennis, 1989, cited in Moseley et al., 2005). Hence, to help the process of teaching thinking, educators need to understand what thinking is and differentiate forms of modelling thinking skills.

Drawing upon the sociocultural perspective, ‘thinking as a cultural tool’ is the last key metaphor of thinking. Thinking, here, always takes place in a context that articulates the individual’s thinking under the influence of cultural mediation and all forms of interactions (direct or indirect) (Moseley et al., 2005; Wegerif, 2010; Wegerif, Mercer, & Dawes, 1999). Moreover, while practising thinking within the wider context, an individual polishes and refines some skills and behaviours (Moseley et al., 2005). To illustrate this metaphor, in Section 2.4, I discussed the dialogic perspective, which emphasises the idea that thinking is often dialogic, whether inside the individual’s mind or with others (Wegerif & Laat, 2011). Moreover, a meaning within this perspective can be articulated within the dialogue and limited by the context of this particular dialogue. However, comparing the three metaphors indicates that the terminology of thinking skills can be widely applicable and transferable in the form of actions.

2.6.1. Thinking and thinking skills

This section aims to highlight the difference between thinking and thinking skills in order to articulate a working definition for this study. However, in light of the discussion above, thinking can be understood in many senses. Distinctions between definitions occur based on the different theoretical perspectives that underpin the definitions, but there are also other reasons. For example, the term ‘thinking’ is sometimes related to being thoughtful, which means the sense of caring and attention (Moseley et al., 2005). This interpretation is preferred by Matthew Lipman’s movement of critical thinking as ‘caring thinking’ (Lipman, 2003), which is an explicit aspect of his thinking framework. In another example, the assumption is that the term ‘thinking’ might imply ‘generally a good thing’ (Moseley et al., 2005, p. 11), whereas on some occasions, thinking does not have this value. However, in an educational

setting, the term ‘thinking’ is generally considered to involve a conscious process (Swartz, Costa, Beyer, Reagan, & Kallick, 2008) that involves forming concepts, imagination, solving problems, decision-making, planning, considering others, evaluation, etc. (Lipman, 2003; Moseley et al., 2005; Swartz et al., 2008; Wegerif, 2005). If thinking is a process that involves previous skills or aspects, it might be viewed as a process of control. The reflection upon the issue of control here, in Dewey’s (1933) view, is an essential aspect of thinking in an educational setting because it develops the individual’s awareness of his or her responsibilities in order to take part in society (Moseley et al., 2005). This view stresses the role of leading (i.e., the learner or the teacher) within the processes of development; Swartz et al. (2008) argued that it is everyone’s position. For example, it is the teacher’s role to ensure that an effective lesson plan is used that triggers learners’ thinking. On the other hand, it is the learners’ role to participate effectively in society and to acknowledge that they are at the centre of this process. Thus, thinking is a matter of influencing and empowering an individual, which might draw upon the ways in which both philosophy and sociology have defined it.

There is considerable debate in the thinking research literature about whether the term ‘thinking’ involves metacognition and/or self-regulation. The role of metacognition and self-regulation is considered to be of crucial importance for the individual’s development (Bodrova, Germeroth, & Leong, 2013). The standard definition of metacognition is thinking about thinking (Kolencik & Hillwig, 2011; Wegerif, 2010). According to Swartz and Perkins (1990), metacognition means that the individual is becoming aware of his or her thought processes in order to control them. Thus, metacognition involves awareness and appropriate application (Bensley & Spero, 2014), whereas self-regulation is the individual’s awareness of his or her own cognitive strengths and weaknesses (Moseley et al., 2005). There is an obvious overlap between these terms. Some researchers consider self-regulation as part of metacognition (e.g., Ashman & Conway, 2002); others see it otherwise, as self-regulation is more comprehensive and involves metacognition as an aspect (e.g., Demetriou, 2000). Another issue raised by

Kolencik and Hillwig (2011) is that metacognition should not be confused with the meaning of ‘critical thinking’, though critical thinkers properly apply some metacognition strategies, even unconsciously (e.g., Bloom’s hierarchic components are an example of metacognition strategies). Moreover, metacognitive knowledge includes knowledge about oneself as a learner and the factors that might impact performance, knowledge about strategies, and knowledge about tasks (when and why to use strategies; Lai, 2011).

As one might anticipate, it is hard to expand each meaning, understanding, and sense of thinking, even when narrowing it down to the educational field. Therefore, acknowledging the complexity surrounding the terminology is an issue in this research that involved in each chapter. What I argue here is the need for a comprehensive and practical definition of thinking in an educational setting that is of value to the learner and the practitioner; this has also been argued by other researchers, such as Wegerif, Li, and Kaufman (2015). In this research, the concern will be more about teaching thinking skills and not thinking itself.

2.6.2. Definitions of thinking skills in education

Cognition, according to Hilgard (1987, p. 1,260), ‘comprises all mental activity or states involved in knowing and the mind’s functioning and includes perception, attention, memory, imagery, language functions, development processes, problem solving and the area of artificial intelligence’. In contrast, Ruggiero’s (1984) definition of thinking is the mental activity that assists the child in formulating any situation or helps to solve a problem or take an action. It includes any mental activities that lead to understanding and decision-making. To this end, cognition may be seen as the overarching umbrella that includes thinking underneath it. The key word in this definition is ‘activity’, which was divided into two aspects of the mind by Fisher (2013), who agreed with Ruggiero’s definition. These two aspects are creativity and criticality. The simplest way to define both aspects is that creativity is originality and criticality is assessment (Piawa, 2010), and the combination of the function of both aspects is thinking (Paul and Elder, 2005). Additionally, De Bono (1999, p. 33) defined thinking as ‘the deliberate

exploration of experiences for a purpose; the purpose may be understanding, decision-making, planning, problem solving, judgment, action, and so on'. Moreover, from a philosophical perspective, Fisher (2013, p. 5) defined thinking as 'how the child makes sense of things'. Fisher's aspects and De Bono's purposes are activities that can be practised over time to become unconscious habits of the mind, a statement with which Ruggiero concurred (1988, cited in Kolencik & Hillwig, 2011). These activities (e.g., problem solving, decision-making, and planning) are thinking skills. The definition of thinking skills not only depends on the philosophical worldview; it is also affected by the researcher's aims. For example, in the literature, there are several arguments regarding thinking skills, such as whether they are teachable, and, if so, whether they can be a separate subject. These arguments appear as a result of how researchers deal with thinking skills. For more illustration from a philosophical stance, thinking skills are 'a way in which humans exercise the *sapiens* part of being *Homo sapiens*' (Fisher, 2013, p. 11), which makes 'thinking' a behaviour that is teachable from an educational perspective. According to the Thinking Skills Review Groups (2002), thinking skills are 'approaches or programmes that require learners to articulate and evaluate learning approaches and/or strategies and/or those that identify specific cognitive or affective processes that are amenable to instruction'. Researchers and educators agree that thinking skills can be seen as a fundamental tool for 'effective thinking' (Beyer, 2008a, p. 223). In addition, they are tools that involve both basic and advanced skills, which are a combination of knowledge, characteristics, and metacognition (Swartz et al., 2008). Since this study aimed to foster general thinking skills and is concerned with the process of learning and developing these skills, then it agrees with Swartz et al.'s (2008) definition to some extent.

Researchers in the Middle East have also paid attention to the importance of thinking skills. Ala'men, Jenaidi, and Awad (2016) argued that thinking skills are like any other skills that can be practised, enhanced, and transferred from one situation to another. Talking about the Gulf countries, where this study was located, since 2006, the Arab Bureau of Education for the Gulf

States (ABEGS) drew special attention to the importance of thinking skills; moreover, they added teaching thinking (general and specific) within the educational objectives in the legislation of 2006. Even though the Islamic perspective emphasises the importance of thinking and educating learners to be thinkers (Shalabi & Khalifah, 2017), it is worth pointing out that definitions of thinking skills within the Arabic literature are mostly driven by Western theories (e.g., Piaget, Vygotsky's; Ala'men et al., 2016; Habib, 1996; Shalabi, 2014). Habib (1996) in his book provided several scientific studies about thinking and thinking skills, particularly about the most preferable thinking approaches used by practitioners and university students. In his synthesis of these studies, he defines 'thinking skills' as the ability to practise any mental process, such as explaining, defining, or classifying. To conclude, all definitions agree that thinking skills are not an abstract cognitive activity, and they can be enhanced, developed, and taught.

2.7. Perspectives on thinking skills in education

2.7.1. Thinking skills frameworks

Frameworks for thinking skills depend on how thinking skills are defined; thus, there are a range of frameworks to produce an understanding of thinking and learning. The variety of these frameworks does not only depend on their production but also on how they have been designed. There are hierarchical frameworks (e.g., Bloom, Englehart, Furst, Hill, & Krathwohl, 1956; Marzano, Gaddy, & Dean, 2000), which are a type of framework that aim to explain different levels skills. Another type is the linear framework, such as Lipman's (2003) framework of critical thinking; linear frameworks emphasise the concept of sequencing (Moseley et al., 2005), which means that the child has to obtain the low-level skills before moving on to the higher-level ones. However, each framework is significant in explaining aspects of thinking. For example, Bloom et al.'s (1956) hierarchic framework identifies the basic cognitive objectives of knowledge, comprehension, application, analysis, synthesis, and evaluation. It is helpful for identifying the type of thinking skills that practitioners can implement through their

curricula to achieve their educational objectives. It helps them to plan their lessons with respect to the level of thinking they are seeking and plan the appropriate activities (Alnesyan, 2012).

For the current study, I have chosen Moseley’s model as a starting point, because it does not imply any order or linearity of thinking skills, and it allows the understanding the relationship between thinking skills can be a back and forth between skills (as the arrows imply in Figure 2.1.). In this section, I will present a model of thinking skills as the model for this research: Moseley et al.’s (2005), which is driven by the sociocultural perspective that drives the definition of thinking in this research. The main feature of Moseley et al.’s (2005) model is that it might be seen as an integrated model that covers a wide domain of cognitive aspects, which means that it targets thinking skills generally, which this research focuses on.

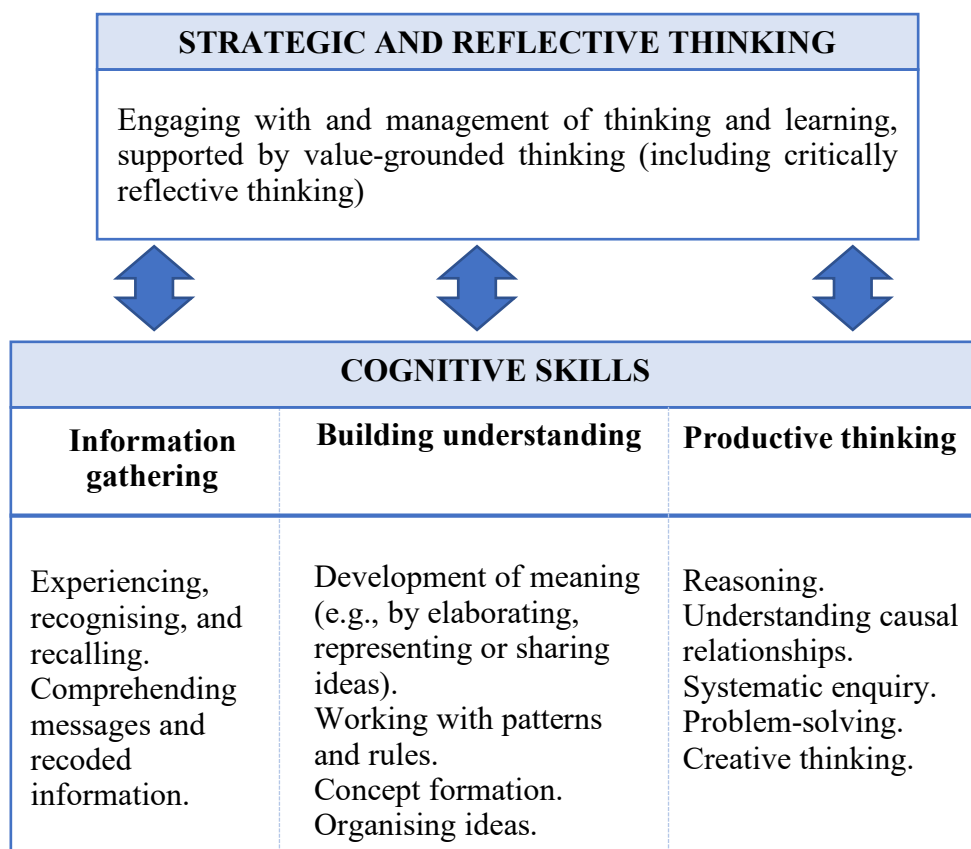


Figure 2.1. An integrated model for understanding thinking and learning. Source: Moseley et al. (2005, p. 314)

2.7.2. Moseley et al.'s (2005) framework

Moseley et al. (2005) reviewed more than 400 articles and books in order to develop their model, the 'all-embracing' framework. They listed the principles that are used in 55 thinking-skills frameworks. Their classification system has three main headings: description and intent to use (i.e., the nature of the function and domains), evaluation (i.e., the value, clarity, and overlapping), and relevance to teachers and learning (i.e., its potential and implementation) (Moseley et al., 2005, p. 3). Their findings emphasise that, across all the frameworks, there is no one framework that can be recommended as an integrated framework. However, they claimed that their 'all-embracing' framework is an integrated model that might be seen as a unifying model for all of the other 55 frameworks.

The 'all-embracing' framework (see Figure 2.1) is a two-tier framework that distinguishes between strategic and reflective thinking and cognitive skills. As the diagram shows, the framework is made of three cognitive components: information gathering, building understanding and productive thinking.

The idea behind choosing this 'uncontentious' term of 'strategic and reflective thinking', according to Moseley et al. (2005, p.313), was to comprehend the three elements of cognitive thinking, but from a different perspective than other frameworks (e.g. Bloom, 1956; Lipman, 2003). However, they argued that there is an essential difference between 'strategic and reflective thinking' and 'cognitive skills'. Cognitive skills are the producers: a more automatic way of processing with less emotion, whereas strategic and reflective thinking is a highly conscious process that is usually associated with effort and emotion, which makes it a simple way of thinking. However, 'strategic and reflective thinking' seeks to determine what produces good thinking. Moseley et al. (2005) described this as the way that an individual articulates the change to his or her own strategy based on his or her previous experience and how this change becomes his or her routine or lifestyle. Moreover, Moseley et al. (2005, p. 315) argued that learning is 'more likely to occur' when thinking is strategic and reflective. Thus, this form of

thinking should be a key function of educational approaches for lifelong learning.

The first component of cognitive skills that is involved in the model is ‘information gathering’, which, along with the other two components, forms Bloom et al.’s (1956) base model. As they are in an ‘all-embracing’ framework, they are not positioned hierarchically; rather, they have interactive relationships with each other, integrating with ‘strategic and reflective thinking’. Although ‘information gathering’ is not a form of higher-order thinking skills, it is important as ‘a prerequisite’ for the other two forms of thinking (Moseley et al., 2005, p. 314). Through these skills, an individual’s mind will be able to distinguish between known information and new information, and, the similarities between these pieces of information.

The second cognitive skill in Bloom et al.’s (1956) model is ‘building understanding’ or ‘comprehension’; it is a basic thinking process in which the individual tries to understand and make sense of the information (i.e., through reading the material or through dialogue) and to construct a meaning or produce new information. Moseley et al. (2005) used the small arrows presented in the transmutational relationship (see Figure 2.1.) between the first and second tiers to illustrate that the information at any level of the thinking process can be easily transformed into understanding, and vice versa. With respect to ‘productive thinking’, according to Lipman (2003), it involves creative, critical, and caring thinking; it is crucial to the learning process, and it allows the individual to gain a deep understanding of the nature of what he or she has learnt. Through the process of learning using productive thinking skills, the individual will understand in depth what he or she has learnt through justification, implication, and assessment. It might be seen as the process whereby an individual may ‘seek and actively use feedback and support from relevant sources’ in order to achieve his or her targets (Moseley et al., 2005, p. 318).

In light of this, I believe that Moseley et al.’s (2005) framework is not restricted to the cognitive domain, as it includes creative, critical, and caring thinking, as well as strategic and

reflective thinking. Furthermore, the framework emphasises the implications of all forms of thinking that are applicable to the individual's activity and joint activities as well (Moseley et al., 2005). Finally, there is a clear distinction between 'strategic and reflective thinking' and 'cognitive skills' in terms of the nature of experience and consciousness. For all these reasons, I chose the framework as the main guide for this research.

2.8. Teaching and developing thinking skills

The importance of developing and enhancing thinking skills has been argued by researchers and educators (e.g., Beyer, 1997, 2008; McGregor, 2007). As mentioned earlier, specialists have recognised thinking skills as a fundamental tool that needs to be part of and taught in the classroom (Beyer, 2008a; Swartz & Perkins, 1990). According to Beyer (2008a), there are two primary types of thinking skills that can be involved in the classroom: 'general' thinking skills and 'specific' thinking skills. The general skills are essential for learning in general, whereas the specific skills are the skills that can be specific to the subject (e.g., mathematics or science) (Beyer, 2008b). Moreover, Beyer asserted that thinking skills (either general or specific) can be taught directly or via infusion methods so that they can be applied across subjects to achieve the learning objective (Csapó, 1999; Harpaz, 2007; Taggart et al., 2005). Both approaches are concerned with maximising the thinking opportunities for learners (McGuinness, 1999). In contrast to these two approaches, Harpaz (2007) provided a conceptual mapping of the approaches to teaching thinking that is driven by the different images of what thinking is and the philosophical underpinning for that definition. He concluded that there are three approaches to developing thinking: the thinking skills approach, the dispositions approach, and the understanding approach. Harpaz's 'ideological image' is the same metaphors mentioned earlier in Section 2.6 (see Appendix 1 for more information). Harpaz argued that to teach thinking, the approach has to be built on a coherent conceptual understanding of 'good' thinking to direct the process of development.

There are a wide range of approaches, programmes, and pedagogical techniques and strategies that can be implied for teaching and learning thinking skills in the classroom. Hence, as this study makes use of a design-based research (DBR) methodology, it has to have a set of design principles based on analysing the relevant literature (for more details, see Chapter 3). This study aimed to understand the fostering of thinking skills in children with LD through using creative drama. As I will discuss in the next chapter, the creative drama literature stresses that it can be used to enhance thinking skills; however, to my knowledge, it has never been used as standalone approach to foster general thinking skills in children with LD. Drawing upon Harpaz's (2007) argument, and from a sociocultural perspective in which thinking is a cultural tool, I argue that this innovation can be allocated within 'the skills approach' directed by the image of an efficient thinker who needs thinking skills. In the following paragraphs, I will descriptively review the most relevant literature to the established list of principles, which will be presented in Section 2.17, and explain how these strategies fit together to serve this study's goal. In addition to the creative drama components, strategies, and foundational elements, four pillars guided the establishment process of these innovative design principles: (1) collaborative learning, (2) direct instruction, (3) dialogic teaching, and (4) providing enough time for the participants, all four of which are teaching strategies often used in conjunction with thinking skills approaches.

2.8.1. Collaborative learning

Collaborative learning is one of the teaching approaches often used in relation to teaching and developing thinking skills and using creative drama as a medium for learning. In addition, it is one of the strategies that seems directly related to the sociocultural views of learning and development. Thus, collaborative learning is not only a teaching approach that influenced this design research, but it can act as the ceiling over all the pillars that formed the intervention in the current study.

The significance of collaborative learning in teaching thinking skills has been recognised by researchers in learning and developing thinking (e.g., Adey, 2006; Beyer, 2008a; McGregor, 2007). It is a ‘philosophy of interaction’ structured by cooperation between the individuals in a learning setting (i.e., classroom) (Panitz, 1996, p. 1). Because it is a structured interaction, Gokhale (1995, p. 22) defined it as ‘an instruction method’ in which learners interact and work together in groups to achieve a common goal. Within collaboration as a learning style, the individual is responsible for one another’s learning as well as his or her own learning and actions (Gokhale, 1995; Panitz, 1996). Dillenbourg (1999, p. 13) argued that through creating an ‘interaction pattern’, collaborative learning triggers the cognitive functions that produce achievement. In the thinking skills field, the use of collaborative learning has its advantages, as affirmed by empirical research, and numerous studies have been conducted on the influence and impact of collaborative learning. A recent example, Loes and Pascarella (2017), investigated whether exposure to collaborative learning activities developed the critical thinking of 1,455 freshman students at 19 students at institutions across the United States. Through statistical control, Loes and Pascarella (2017) concluded that collaborative learning has the potential to help a student achieve critical thinking skills as one of the desired outcomes of higher education.

Burgess and Young (2008) argued that collaborative learning increases the learner's metacognitive awareness, which results from their explanation of their thinking and knowledge within the group. Also, Burgess and Young (2008) identified three techniques to facilitate group work in a collaborative learning setting. In this study, I have adapted two of them as part of the foundation of my design:

1. Build strong personal relationships and a sense of belonging through icebreakers, which help students relax and participate without feeling intimidated.
2. Establish shared ground rules, which may improve attendance and participation and help deal with any later conflicts. (p. 71)

As mentioned earlier, collaborative learning is the link between the theoretical and empirical understanding of the intervention. The design principles, as will be explained in Section 2.17, have three main aspects, one of which is creating a safe environment for the participants. This aspect was initially grounded on Burgess and Young's (2008) previously mentioned principles. From a dialogic perspective, to have fixable but grounded boundaries for the thinking space (see Section 2.4.), there was a need to have ground rules to help shape the relationships between participants.

2.8.2. Direct instruction

Direct instruction in teaching thinking skills provides detailed explanation and explicit step-by-step thinking skills procedures and rules to the learner (Beyer, 2008a). It is a 'systematic, structured practice of a thinking skill for autonomous use' (Beyer, 2008a, p. 225) that offers to the coach suggestions regarding when and how the introduced thinking skill could be used (Beyer, 2008a, 2008b; Nickerson, 1988) and provides feedback and coaching throughout the process of learning the thinking skill (Beyer, 2008a). Direct instruction of teaching thinking skills is an interactive pedagogy (Alnesyan, 2012); teachers could use it for social subjects (Beyer, 2008b). Researchers have affirmed that instruction is useful in supporting learners of all abilities' development of enhanced proficiency in performing cognitive procedures (Beyer, 2008a; Collins, Brown, & Holum, 1991; Nickerson, 1988; Resnick, 1975).

There are several summaries concerned with what to consider when providing instruction in thinking skills (e.g., Collins, Brown, & Holum, 1991; Dole & Nokes, 2009; Beyer, 2008b). The most practical framework for direct instruction in thinking skills was provided by Beyer (2008b), who argued that even though repeated opportunities to engage in thinking skills might help students, the teacher and the student have to employ consistent and continuous techniques during thinking skills activities (Beyer, 2008a, 2008b). Therefore, Beyer's guideline is very clear and systematically structured. His work was influenced by other strategies and

techniques: for example, Nickerson's (1988) three stages routine for applying thinking skills (modelling, coaching, and fading) and the metacognitive reflection framework by Swartz, Costa, Beyer, Reagan, & Kallick (2007), which consists of three sections: think, pair, and share. According to Swartz et al. (2007, 2008) this strategy provides learners with the opportunity to review their conclusions and confirm their understanding critically. Beyer's (2008b) framework has four guidelines:

Guideline 1: Teach thinking-skill procedures, rules, and information.

Guideline 2: Make these skill procedures, rules, and information explicit.

Guideline 3: Introduce each new skill in a lesson focusing on that skill.

Guideline 4: Guide and support continuing skill practice.

In line with the constructive notion of a meaning within the sociocultural perspective, Beyer (2008a) stated that 'repeated use of metacognitive reflection during initial efforts to apply a new skill enables novices to identify flaws in their own thinking as well as recognize and gradually construct or reconstruct more effective procedures for applying the skill' (p. 226). In the same respect, McGregor (2007) argued there is 'no common taxonomy for thinking skills' (p. 22), and all cognitive functions contribute to the fulfilment of thinking skills. Both arguments had an impact on this thesis, because at this level, the design of the principles was based on my assumptions as a researcher and my understanding of how the literature could help to answer the main research question. Moreover, the notion of design studies provided me with the opportunity to repeat and have a systematic structure for introducing thinking skills, which is supported by Beyer's framework. Thus, the principles of the intervention of this research design were initially founded on the understanding that there is no taxonomy for thinking skills (e.g., higher and lower order thinking skills) and on increasing children with LD's cognitive functions through 'systematically, explicitly, and directly' engaging the children with thinking activities (Beyer, 2008b, p. 201) through creative drama.

2.8.3. Dialogic teaching/thinking together

Dialogue is a dynamic classroom interaction that occurs between the teacher and learners, among learners themselves, or between the teacher and a group. It can be used collaboratively or as an individual to ‘trigger’ the learners’ cognitive functions (Alnesyan, 2012). In the field of developing thinking skills, research has emphasised the power of language in the classroom. Mercer (1995) and Wegerif and Mercer (1997) argued that language is a social mode of thinking because learners construct an understanding of their and others’ actions and thoughts. To understand dialogue as a teaching approach, it is crucial to examine the type of talk as social modes of thinking.

In line within this understanding of dialogue, Littleton and Mercer (2013) explained how people think together creatively and productively through their talk. They argued that talk between people is not limited to interaction; instead, it is a way of thinking, which they refer to as ‘interthinking’. It originates as ‘thinking together’ which is an approach to ‘help children build and develop their knowledge and understanding together through enabling them to practice and develop ways of reasoning with language’ (Littleton et al., 2005, p. 2). According to Littleton and Mercer (2013), there are three types of talk (e.g., Knight & Littleton, 2015; Littleton et al. 2005; Mercer & Howe, 2012; Wegerif & Mercer, 1997). They are (1) Disputational Talk, which is identified as disagreement and individualised decision making (as a discourse, it could be described as short exchanges consisting of assertions and challenges); (2) Cumulative Talk, which builds positively between people but uncritically about their shares and involves repetitions and elaborations; and (3) Exploratory Talk, in which people critically and constructively engage with each other's views, thought, and ideas. Within this talk, information and reasoning are more visible within dialogue (Wegerif & Mercer, 1997).

Moreover, ‘Thinking Together’ is a pedagogy that involves this type of talk, which, according to Mercer, Hennessy, and Warwick (2017), is effective for thinking and learning. Exploratory Talk, as dialogue, enables all participants to be engaged and pool information,

ideas, opinions, and questions (Littleton & Mercer, 2013); within the talk process, participants also try to reach an understanding in a way that makes reasoning visible (Littleton & Mercer, 2013), and it allows participants to think aloud, think together, and articulate meaning and understanding collaboratively (Mercer, Hennessy, & Warwick, 2017; Mercer & Littleton, 2007). It is worth pointing out that collaborative learning, as explained above, is a context for this type of talk (Mercer, Hennessy, & Warwick, 2017). As a pedagogical approach, it depends on the learners' willingness to respect and value the ground rules (Mercer, 2008; Mercer, Hennessy, & Warwick, 2017; Mercer & Howe, 2012) but it is important to note that there are no fixed ground rules for every learning setting; instead, but each classroom establishes its own set of rules. Mercer, Hennessy, and Warwick (2017) argued that group work in the classroom often 'fails' or is considered unproductive for the lack of appropriate ground rules.

Synthesising the three approaches, all of them stressed the use of ground rules as a way of establishing a system (direct instruction), structuring the participation (collaborative learning), and founding behavioural norms (dialogic teaching).

2.8.4. Providing enough time

In this research design, 'providing enough time' is not a principle itself but it is a considerable technique in this DBR. Research has emphasised the importance of time as a significant element for researchers and practitioners concerned with developing thinking skills (AlQahtani, 1995; Beyer, 2008a). Based on the previously discussed approaches, the process of developing thinking skills requires practice and repetition to gain experience as essential elements (Alnesyan, 2012). However, Beyer (2008a) argued that skilled thinking requires more than teaching an approach (i.e., direct instructions) or self-discovery because, as a product of repetition, and from a sociocultural perspective, thinking skills within a cumulative learning process hardly develop as a result of one experience (Beyer, 2008b). Nor does skilled thinking usually occur as 'an occasional effect of classroom learning' (Alnesyan, 2012, p. 58).

Reasonably, thinking skills are developed and enhanced over time through a cumulative learning process (Beyer, 2008a; Nickerson, 1988).

2.9. Teaching thinking skills in Saudi Arabia

This thesis is concerned with teaching and developing thinking skills to children with LD in Saudi Arabia. Therefore, to provide a clear picture for this design research's context, I will discuss this matter in detail in Chapter 3 as the background of the research context. Here, I will focus only on the movement of teaching thinking skills in Saudi Arabia.

The new Saudi 'Vision 2030' requires changes in many aspects of Saudi society, educationally, economically, and politically. To achieve this vision, education, as stressed in Vision 2030 (2016), has to shift toward developing more independent individuals with entrepreneurship skills. With this regard, to foster these characteristics, education has to include the development of cognitive, social, and relational skills as part of its objectives because they are, along with other personal skills, essential characteristics of entrepreneurs (Sousa & Almeida, 2014). In fact, the emphasis on the importance of developing the learner's cognition (particularly thinking) is not new in the Saudi education system: It is one of the earliest goals of the Saudi education system (Ministry of Education, 1970). The aims of the Goals and Objectives of Education in Saudi Arabia document included developing and enhancing individual skills and thinking was one of these skills (Ministry of Education, 1970) (see Appendix 2). In criticism of this, the objectives focused on the importance of the individual rather than the group, and thinking was limited to mathematical thinking, scientific thinking, and research (Alfares, 2014). Most recently, the educational development centre in Saudi Arabia is more concerned with collaborative learning and other thinking skills; for example, one of the main objectives of pre-primary education is 'encouraging the children's imaginative thinking' (de Educación, 2010).

Thinking skills are a crucial component of a movement in education striving to encourage students to be independent and improve their cognitive abilities (Alnesyan, 2012) and more

critical when aiming for ‘education for all’ (Al Shaer, 2008). Thus, numerous researchers have drawn attention to studying the learning and development of thinking skills among students across all levels of education—for example, in preschool (e.g., Ala’men, Jenaidi, & Awad, 2016), in the primary school (e.g., Alanazi, 2018; Alnesyan, 2012; Alwadai, 2014), in the intermediate school (e.g., Alfares, 2014; Al-Gamdi, 2008), in high school (e.g., Al-Essa, 2009; Alqahtani, 1995), and in higher education (e.g., Alwehaibi, 2012; Gashan, 2015). All mentioned studies stressed that (1) Saudi students lack practice in thinking skills in the classroom; (2) there is a mismatch between the textbook’s activities, the targeted thinking skills, and the teaching methods; and (3) students’ thinking skills depend mainly on the classroom teacher. Therefore, Alwehaibi (2012) called for attention to Saudi teachers’ backgrounds and the development of their thinking skills. Moreover, Alfares (2014) indicated that having a textbook that has the potential to prompt thinking skills in learners is not enough, since there are other factors (e.g., teaching approach) involved in the enhancement process (Alwehaibi, 2012).

Learning and developing thinking and thinking skills tend to be taught via infusion approaches, especially in primary school in Saudi Arabia (Alnesyan, 2012). They are only taught as a standalone subject at the university level as a core requirement in the preparatory year programme (I used to teach this course). Even though, since 2002, the Ministry of Education has established workshops and seminars for teachers and supervisors to provide thinking skills through the infusion approach (Al-abduKarim, 2007), there is still considered to be a need for training, in particular for schoolteachers (Alwehaibi, 2012). With regard to primary school, which is the focus of this study, in 2008, the Ministry of Education started to improve the thinking skills curriculum by changing the textbooks to be more related to a new generation and to bridge the gap between the nationally and internationally required skills (Alnesyan, 2012; Al-Shaer, 2008). Alnesyan (2012) described how the book of Islamic Education changed. He reported that the textbook changed to include activities that targeted

thinking skills and questions that by their nature have no single correct answer. However, despite the efforts and all potential changes, Alnesyan (2012), Alwadai (2014), and Alanazi (2018) agreed on the need to adopt new approaches and methods for teaching thinking skills in primary school that match the notion of ‘education for all’. Moreover, according to Alnesyan (2012), there is a lack of transparency about the Ministry of Education’s efforts in Saudi Arabia regarding the application of thinking skills in schools. This is likely due to the lack of research, especially practice-based research, and the limitations of producing publications and official reports regarding thinking skills in particular as a topic.

2.10. Thinking skills for children with learning difficulties in Saudi Arabia

Since the 1970s, cognitive intervention has been influenced by special needs education studies, particularly relating to those with learning difficulties (LD) (Moseley et al., 2005). The idea of cognitive intervention among children with LD by Swanson (1999, 2000) in the United States aimed to help children to use a range of strategies and procedures such as ‘elaboration’, in which the child with LD actively engaged in learning, and ‘attribution’, which denoted the idea of control or metacognition.

Khattab (2006), one of the pioneering researchers in the Middle East who have focused on teaching thinking skills to children with LD, indicated that learners with LD can learn thinking skills, but they may require an extensive and focused teaching approaches that focus specifically on teaching and prompting thinking skills, and which are particularly designed for them. According to Montague, Krawec, Enders, and Dietz (2014), children with LD can learn, enhance, and develop their thinking skills. Both Khattab (2006) and Montague et al. (2014) agreed that the key to teaching thinking skills to children with LD is the manner in which they are taught in the classroom. The curriculum and the method of teaching are important. Marques (2014) compared the English and Brazilian national curricula regarding teaching thinking skills in primary schools. Marques emphasised the argument that, since education aims to empower all students to become independent individuals who can take responsibility for their learning

and actions outside of school, the curriculum must be aimed at developing students' thinking skills.

To understand the capability of thinking among learners with LD, there is a need to understand their cognitive development by studying the extant literature concerning cognitive development and thinking skills. In Section 1.3, I discussed how the definition of children identified as having LD could vary from one context to another, but all definitions agreed that children with LD have a slower pace in their progress than their peers. According to Taggart et al. (2005), the most prominent areas are language, play, problem-solving, and thinking skills, which is what this research focuses on. Even though children with LD are slower than their peers, they can, then, adopt new skills. Thus, I argue that there is a need to pay more attention to providing teaching strategies and approaches that can accommodate their situations, allow them to learn and develop based on their capabilities, and focus on the previously mentioned prominent areas.

2.11. 'Creative Drama'

Within a sociocultural perspective, thought and language are cultural tools that are articulated and developed through and within the context of the learning process. Additionally, as mentioned in Section 2.4.2, thought is a dialogic process, whether it happens individually or with others (Wegerif & Laat, 2011). This space is defined by the context in which the dialogue occurs (Wegerif, 2006; Wegerif, 2006). Chapter 1 mentioned that this thesis aims to understand how the thinking skills of children with learning difficulties (LD) might be fostered through the use of 'creative drama'. Creative drama is the physical context for this design research, and using creative drama activities with child participants, this study investigates the process of thinking within learning. However, although thought is merely one part of the learning context, the aspects, techniques, and methods of creative drama constitute the intervention of this design research.

2.11.1. Overview: the term ‘Creative Drama’

Even though creative drama uses theatre techniques (Saka, Ebenezer, Çakır, & Saka, 2016), it is considered to be an effective teaching method (Oguz & Sahin, 2014) that animates and represents any subject (e.g., social skills or educational areas) with a group of participants (Şengün & İskenderoğlua, 2010). However, the term ‘creative drama’ has an ambiguous meaning and varied definition. While many researchers have adopted other terms, the majority use the term ‘creative drama’ (Woodson, 1999; Mages, 2008). A literature review of the use of the term ‘creative drama’ in empirical studies was carried out by Mages in 2008. Mages used 35 terms as keywords in databases and searches to identify relevant studies. She presented terms for ‘creative drama’ that had been used interchangeably to describe similar or related phenomena across the literature, including ‘drama in education’ (e.g., Brown, 1990), ‘dramatic approaches’ (e.g., Edmiston, 2013), ‘improvisation’ (e.g., Brown, 1992), and ‘imaginative play’ (e.g., Saltz and Jonsoion, 1974). Thus, pragmatically, each researcher or practitioner interprets the term ‘creative drama’ differently. Nonetheless, they all agree that creative drama is ‘dynamic’ in nature (Davis & Behm, 1978, p. 10) and effective as a teaching method (Zaghloul, 2018; Oguz & Sahin, 2014). The term ‘creative drama’ was first introduced by Winifred Ward in 1930, who introduced it as a contribution to child education (as cited in Ward, 1960). Ward described the term as a classroom teaching method that does not need a full script (Ward, 1960); it is not a type of theatre (Mages, 2008), which leads to the understanding that the term does not refer to traditional theatre practices. This understanding raises the practical argument that if creative drama is not theatre-related, it cannot be implemented by art teachers or researchers. This argument is backed by the idea of ‘creative drama’ is not a form of art but a teaching approach that can be carried out in the classroom. In contrast, bearing in mind that the term often appears as an approach (Woodson, 1992), according to Saka et al. (2016), it incorporates theatre techniques and might also be acknowledged as a ‘performance form’ that help participants learn, develop and improve

various skills (e.g., thinking skills and communication skills) (Zaghloul, 2018). The relationship between creative drama and theatre is too complex to be addressed here. Here, nonetheless, at this point, it must be noted that ‘creative drama’ is ‘informal drama’ (Ehrlich, 1974, p. 75) and ‘a method to teach’ (Hendrix, Erick, & Shannon, 2012, p. 824) that takes place in any learning context (e.g., the classroom) (Hensel, 1990).

Whether it is theatre-related is not the only controversy surrounding the term ‘creative drama’. The word ‘creative’ within the term implies that there is also a non-creative drama or non-creative method of teaching (Mages, 2008; Woodson, 2009). Therefore, employing the term in this thesis brings about the need to distinguish between ‘creative teaching’ and ‘teaching for creativity’ in order to position the use of the term ‘creative drama’ in this intervention. This distinction had been made by the National Advisory Committee on Creative and Cultural Education (NACCCE) in 1999. According to the NACCCE (1999) report, teaching creatively is defined as ‘using imaginative approaches to make learning more interesting and effective’ (p. 89). By contrast, teaching for creativity is defined as ‘forms of teaching that are intended to develop young people’s own creative thinking or behaviour (NACCCE, 1999, p. 103). Even though the terms encompass different focus, both terms are interdependent and crucial aspects of enhancing children’s thinking (Craft, 2001; Jeffrey & Craft, 2004; Lin, 2011). To illustrate, the features of creative teaching, such as dynamics and imagination, often lead children to new ideas. Another point, mentioned in a study by Cremin, Burnard, and Craft (2006) on pedagogy that fosters possibility thinking, revealed three pedagogical principles: ‘standing back, profiling learner agency, and creating time and space’ (Lin, 2011, p. 152). These principles help lead children’s engagement by transferring the decision-making and responsibility of learning from the teacher to the child. Consequently, the pedagogical approaches to teaching for creativity and to teaching creatively are the main elements that foster possibility thinking (Cremin, Burnard, & Craft, 2006), which is what this study focuses on.

Creative drama as a teaching method is useful for children because it offers them the opportunity to participate in activities (e.g., role play) that require them to improvise, to analyse their role in the improvisation, and to work collaboratively on creative tasks (Şengün & İskenderoğlu, 2010; Freeman, Sullivan, & Fulton, 2003). Creative drama also allows children to be more assertive (Şengün & İskenderoğlu, 2010) and construct meaning collaboratively by being creative (Aykaç, 2017; Şengün & İskenderoğlu, 2010). However, referring back to the previous argument, creative drama is based on imaginative approaches (teaching creatively) and driven by the children's creativity (teaching for creativity). Thus, bearing in mind the principles that foster possibility thinking, I would agree with Lin (2010) and stress that creative drama is a pedagogical strategy fashioned to perform both creative teaching and teaching for creativity.

In sum, the term 'creative drama' has been used interchangeably with other terms in the literature. The majority of researchers employ the term 'creative drama' to focus on the learner's development, be it cognitive, educational, or behavioural. The current study is concerned with the fostering of thinking skills among children with LD in Saudi Arabia. Moreover, the framework of thinking skills used in this study comes from Mosely et al. (2005), and this framework might be considered an integrating framework that incorporates creative thinking as the main form of thinking. However, as an educational researcher who believes in Jeffery and Craft's conclusion about teaching creatively and teaching for creativity, I would like to introduce 'creative drama' as a pedagogical approach that can be part of classroom activities, and the implementation of creative drama in this thesis is intended to enhance thinking skills in children with LD. The following section offers a definition of 'creative drama' as a pedagogical approach.

2.12. Creative drama in education

2.12.1. Definition and characteristics

Creative drama is arguably one of the most effective recent methods in terms of offering children active learning opportunities at school (Aykac, 2017). Generally, creative drama focuses on group work and collaboration to actively represent any subject using improvisation techniques that draw on the participants' experiences (Uzunöz & Demirhan, 2017). It is defined by Szecsi (2009) as 'an improvised enactment in which informal play-making is planned and played with spontaneous action and dialogue' (p. 120). One of the first definitions that was widely cited within the creative drama literature came from Davis and Behm (1987). According to them, creative drama is 'an improvisational, non-exhibitional, process-centred form of drama in which participants are guided by a leader to imagine, enact, and reflect upon human experience' (p. 262). This definition contrasts with the one explored in the previous section, which defined creative drama as a pedagogical approach. Even though it is one of the most cited definitions, Davis and Behm categorised creative drama as a 'form of drama', differentiating between drama and theatre in education, as, according to them, drama is 'a thing done' and theatre is a thing 'to gaze on' (Davis and Behm, 1987, p. 261). Also, within the literature, Davis and Behm's practical definition has been criticised for being too broad and including a wide variety of dramatic styles (Mages, 2008; Woodson, 1999; Wee, 2009). Interestingly, Woodson (1999) pointed out that the full definition by Davis and Behm (1987) and most of their literature review focuses only on creative drama, not the child participating in the activities of creative drama. For example, the definition includes the role of the guide, mentioning the primary purpose of creative drama as related to the growth of the learner and outlining the requirements of creative drama.

Nonetheless, as a practical definition, Davis and Behm's (1987) definition included the main three characteristics of creative drama. First, it is 'improvisational', according to Hendrix, Eick, and Shannon (2012), which is beneficial for children because it offers them 'a

transactional learning pathway in order to help [them] build a deeper understanding of concepts' (p. 826). Second, it is 'non-exhibitional', meaning that it does not aim to entertain an audience, even if it used as a technique within theatre (Davis & Behm, 1987; Saka et al., 2016). Finally, it is 'process-centred', which emphasises why it fosters active learning in a learning context, as mentioned before, and it offers children the opportunity to be more assertive (Şengün & İskenderoğlua, 2010) and collaboratively articulate meaning, negotiate, and think to achieve a task or make a joint decision (Aykaç, 2017; Şengün & İskenderoğlua, 2010). The three characteristics of creative drama offer children a dynamic learning context (Davis & Behm, 1978) and motivation for learning (Hendrix, Eick, & Shannon, 2012), in addition to being 'equally good' for interpersonal interactions (Mages, 2008, p. 130) and rich for verbal engagement among the children themselves, between the children and leader, and across the whole group (Mages, 2006). Since this thesis aims to foster thinking skills in children with LD by drawing upon a sociocultural perspective that emphasises the role of the context within the learning and development process of a child, these three characteristics are part of the design principles of this research design and will be further discussed in Section 2.17.

Turkey is one of the countries that has paid the most attention to the use of creative drama in education and has incorporated it into the literature within different educational disciplines, including science and technology (e.g., Özek, 2016; Kaplan, Öztürk, & Ertör, (2013), teacher education (e.g., Epçaçan, 2013), and fostering creativity (e.g., Momeni, Khaki, & Amini, 2017). Most of the Turkish literature cites a definition by Ömer Adıgüzel (2006): 'as [a] play-like process of a group in which they perform some animations [inspired by] real life' (Adıgüzel & Timuçin, 2010, p. 1741). This definition emphasises that creative drama is a natural way of learning because it is 'play-like'. Peter (2003) agrees, also reporting that drama is effective in involving learners and helping them attain complex information. As mentioned in Section 2.11.1, creative drama focuses on group work that draws from the experiences of the children within the group (Uzunöz & Demirhan, 2017). Therefore, in addition to the

previously discussed characteristics, creative drama is a natural learning process that offers an active context derived from real-life experiences. Also, creative drama is dynamic and participatory in notion, whereby children have to work in a group actively.

Usefulness of creative drama - Within the educational field, researchers showed that creative drama is an effective educational tool that creates a useful context for learning and development, especially for young learners. Creative drama provides children with opportunities to develop their vocabulary and literacy skills (e.g., O'Day, 2001) and it has been shown to promote cognitive skills, foster thinking, and enhance fluent and flexible thinking (e.g., Lin, 2010; Karakelle, 2009). Creative drama also enhances emotional support and communication skills (e.g., Mokhtar, Halim, & Kamarulzaman, 2011; Freeman, Sullivan, & Fulton, 2003; O'Neill, 2008) and provides excellent opportunities for learners with special needs. For example, in 2008, O'Neill investigated storytelling and creative drama for the powerful possibilities they might offer in creating rich, playful, and inclusive environments for children with special needs in early childhood education. The results of O'Neill's study highlighted that this dynamic approach allowed all participants to fully engage in a large, group-inclusive experience. Furthermore, supporting children with special needs in science learning has been explored by Metcalfe, Abbott, Bray, Exley, and Wisnia (1984), and their study found that creative drama is an alternative teaching strategy in science learning for 'slow-achieving' and 'gifted' students. The students were able to relate ideas from previous knowledge to construct new knowledge through creative role-playing. Through that Metcalfe et al. (1984) concluded that the students had obtained a deeper and more meaningful understanding by their explaining conclusions via relating the ideas to prior knowledge and experiences.

2.12.2. Creative drama session

A creative drama session consists of three main parts: preparation, personification, and evaluation (Gundogdu, 2012; Uzunöz & Demirhan, 2017). These stages are also known as warm-up activities, enactment, and decision (Saka et al., 2016; Erdogan, 2013; Adigüzel & Timuçin, 2010). Generally, Güner and Uygun (2016) affirm that any drama-based session has to have three sequential elements: introduction, development, and evaluation.

- **Introduction:**

‘Warm-up activities’ make up the preparation stage for creative drama activities (Saka et al., 2016). This stage aims to familiarise the learners with the space surrounding them and the session leader (Sağlamel & Kayaoğlu, 2013; Erdogan, 2013). This stage of a creative drama session can consist of one or more activities. However, Erdogan (2013, p. 46) argues that the warm-up stage is used ‘intensively’ and for ‘self-oriented activities, whereas others have suggested that, as the introductory part crucial for building trust among participants, the creative drama leader has to design this stage to engage and include everyone so they can establish rapport with each other (Sağlamel & Kayaoğlu, 2013). Within this stage, learners prepare for the next step physically and mentally (Erdogan, 2013; Saka et al., 2016).

- **Main activity:**

‘Introducing the dramatic moment by the students’ is the stage where the targeted skills or topic is shaped and developed (Erdogan, 2013). It is defined by McCaslin (2006) as a creation situation where the characters speak and interact spontaneously. More importantly, within this phase, the leader must structure the material that the children use to act or improvise but, at the same time, according to Sağlamel and Kayaoğlu (2013), the children should not feel intimidated but follow the creative drama leader. In their findings, Saka et al. (2016) argued that to increase the learners’ efficiency and self-confidence the performance and evaluation stages have to be taught in an effective way. With regard to the performance stage, Saka et al. (2016) explained that learners in this stage obtain knowledge and information by reporting and

dealing with others actively, which leads back to Sağlamel and Kayaoğlu (2013), who indicated the importance of assuring the structure of the topic without posing any limitations. Sağlamel and Kayaoğlu (2013) also suggested that to ensure and build the learners' confidence, the leader must provide time to sample the improvisations. Güner and Uygun (2016) stress that dramatic moments require abstraction and imagination, for which leader must create an atmosphere that is believable for the learners. In this phase, the creative drama leader can use materials that stimulate improvisation. Additionally, the leader has to explain the instructions of the activity clearly (Güner & Uygun, 2016).

- **Closing:**

'Evaluation of the lesson' is a stage that has been implemented differently across the literature based on the subject for which the creative drama is being used. Güner and Uygun (2016), for example, used creative drama to examine the processes of the formation of communities of practice in creative drama sessions for preservice teachers enrolled in the departments of early childhood and elementary mathematics education. In their study, the closing/evaluating stage, which they conducted as a discussion to determine the progress of the participants, was important to see if the learning goals had been accomplished. Another example comes from Saka et al. (2016), who used the creative drama approach to develop seventh-grade students' conceptual understanding of some genetic concepts, attitudes towards learning biology, and awareness of forensic science. In their study, to achieve the learning goals, they divided each stage into several activities, and the evaluation stage was used to examine the gathered information from previous experiences and they asked the students after the discussion to share in written form their ideas, thoughts, and what they had learned. Thus, the closing stage is where the creative drama outcomes are evaluated and discussed, often collaboratively (Erdogan, 2013). Sağlamel and Kayaoğlu (2013) argue that the role of the creative drama leader in this stage is not only to oversee the learning process through evaluation but also to make sure that learners understand that the evaluation, which is used for the idea and not to evaluate

the participants personally. Another role for the leader in this stage is to have a ‘clear closing’ that helps smoothly transition from the imaginary world back to the real one (Szecsi, p. 123). Another point raised by Sağlamel and Kayaoğlu (2013), also related to children’s well-being, is that the evaluation is not limited to being a closing activity for creative drama sessions but can be implemented for any activity in any stage because, during evaluation, learners come together to uncover, negotiate, and reach a joint decision (Erdogan, 2013).

The role of the leader - Drawing upon a sociocultural perspective, as discussed in Section 2.3, children are active constructors of meaning, and their development and learning are the outcomes of this interactive process. As a teaching method, creative drama produces a foundation for useful and productive dialogic development in children, as it teaches the children to express themselves as well as to control their actions to achieve the task (Chukwu-Okoronkwo, 2011). The previous section discussed how creative drama is an active, dynamic, and natural collaborative act where relationships are built on trust among participants. Moreover, participation expands the children’s views (Chukwu-Okoronkwo, 2011) and provides them with a deeper understanding of meaning (Hendrix, Eick, & Shannon, 2012). Thus, to successfully guide the children’s participation, the role of the creative drama leader is important.

According to Abone (1990), the leader of a creative drama session ‘creates the teaching situation, employs suitable teaching techniques, [and] understands the nuances of the pupils and the situation by asking questions’ (p. 115). In addition to the responsibilities mentioned in the previous paragraph, based on Abone’s definition, I would argue for the possibility of dividing the role of the leader into three aspects: 1) creating a teaching and learning situation that refers to the session plan, wherein the teacher has to design the creative drama activities based on the topic, the session objectives, and the children’s abilities; 2) creating a supportive learning environment that enables and encourages the children to actively and naturally interact with limited barriers as much as possible; and 3) leading the session, wherein the leader has to

bring to life the current situation of the activity and provide the children with the necessary stimulation. My argument is supported by Güner and Uygun (2016), who discussed the role of the instructor in drama-based lessons in elementary mathematics education based on the stages of creative drama sessions (warm-up, main activity, and closing activity). They mentioned that the role of instructor started before the lesson (aspect 1) in designing the activity and determining the purpose of the session. Güner and Uygun also stated that the drama instructor has to encourage the participants to share their feelings, thoughts, and knowledge (aspect 3), and finally, they discussed the difference between the role of the teacher in the classroom and in a drama-based lesson, in that the drama instructor has to create a process-oriented learning context in which both the instructor and children can participate in the activity (aspect 2).

The current study investigates the above-identified argument regarding the role of the leader by examining the use of creative drama as a teaching approach for thinking skills. This topic is not the primary focus, but since this study is design research, it adapts the three previous aspects as the foundation of design principles.

2.12.3. Types of creative drama

Considering the nature of creative drama on the continuum of spontaneous, unstructured, and child-centred teaching approaches with a leader or a guide, not a teacher, Buesgen (1999 cited in O'Neill, 2008) proposed the following forms of activities that can be included in creative drama: pretend play, storytelling, story enactment, imaginative journeys, and theatre games. 'Let's pretend' is the norm in creative drama activities, not just children's play. Additionally, the literature reveals three major types of creative drama: thematic improvisation, story-based improvisation, and Paley-style improvisation (Mages, 2008, 2015) and three subtypes: incidental creative drama, evolving creative drama, and pre-planned creative drama (Brown & Pleydell, 1999). Thematic improvisation is 'the enactment of themes' such as superheroes, farm animals, or a visit to a friend, while story-based improvisation is 'the enactment of set stories' (p. 131). Mages believes that thematic improvisation is 'less structured

than story-based improvisation because thematic improvisation does not have predetermined characters or predetermined plots (p. 132). In creative drama as a pedagogy, the activities of thematic improvisation might be seen as an addition to the classroom (Devlin, 2013). According to Mages (2009), in thematic improvisation, if the intervention is more natural to exercise, the children spontaneously create characters, drawing upon their own experiences (Devlin, 2013).

The second type proposed by Mages is story-based improvisation, which, as mentioned above, is the ‘enactment of set stories’ (p. 131). Thus, the enactment of this type of creative drama is based on a story the children have heard and can be seen as a progression of thematic improvisation (Devlin, 2013). This type requires the children to make connections between the text, their acting, and their experiences, while in thematic improvisation, such connections are not a requirement. A difference between thematic and story-based improvisations is that story-based improvisation is more structured compared thematic improvisation which is the less structured type (Mages, 2015). For example, Smilanksky (1968) found that children’s reactions within thematic improvisation are different from those in story-based improvisation, which led to exclude the results of the story-based improvisation in her findings (Mages, 2008). In most instances, this type of intervention is more related to the researchers and practitioners who concerns with theatre and literature (Mages, 2015). For example, the children might act out traditional folk tales or modern stories. The advantage of this type is that it might help the children understand and conceptualise the plot structure, the characters, their dialogues, and the entire story that they are enacting (Mages, 2015).

The third form of creative drama is based on a curriculum design introduced by Gussin Paley first in 1981. Her work is well-known in the field of early childhood education (Mages, 2008; 2015). Paley’s intervention is unique because ‘children are encouraged to dramatise stories that they themselves have created’ (Mages, 2008, p. 136), which demands the same connection skills required in the previous form as well as creative writing as an additional skill.

Therefore, this type equips the children with the writer's voice, which helps them evaluate the story's events, reconstruct them, and make changes as they see fit (Mages, 2015).

2.13. Studies on the effects of creative drama

Creative drama as a method is described by Çokadar and Yılmaz (2010) as a sociocultural approach grounded on the notion of constructivism, which tends to be learner-centred, while the teacher serves as a guide for the learning process (e.g., through discussion or improvisation). To implement this method in a way that serves the aim of this thesis, which is fostering thinking skills in children with LD in primary schools in Saudi Arabia, there was a need to analyse the most relevant empirical literature. Section 2.12.1 generally highlights the usefulness of creative drama as pedagogical teaching. This section presents how researchers have used creative drama across different educational disciplines and for different reasons.

In Saudi Arabia - In Saudi Arabia, drama is not part of any stage of the education system, even though it is mentioned by the Ministry of Education as a teaching approach that helps preschool and primary school children learn and conceptualise the world through joyful learning environment (de Educación, 2010). As a teaching method, it is limited to preschool-age children, except for role-play techniques, which are often part of textbook activities, particularly in Arabic classes.

However, within the context of Saudi educational research, there have been two recent studies using creative drama and 'storytelling' as improvisational techniques in teaching, and both researchers focused on thinking skills. The first study was conducted by Zaghoul (2018) and was concerned with the use of creative drama in teaching to improve the thinking skills and communication skills of 140 students (70 male and 70 female) in their preparatory year at North Border University. The study measured the differences between the control and experimental groups in terms of skills acquisition. Zaghoul's found a significant difference between the groups in favour of the experimental group. Furthermore, Zaghoul (2018) stresses that creative drama as a teaching method plays a constructive role in the learning process by

developing students' communication and thinking skills. Finally, Zaghoul (2018) concluded his research by suggesting that, due to the effectiveness of creative drama on self-development, which enhances both skills, practitioners and researchers who deal with university-level education devote some attention to creative drama as a teaching approach in Saudi Arabia.

Considering that storytelling is a form of creative drama (O'Neill, 2008), the second example is Alanazi (2018) who studied primary school children. Alanazi's study aimed to identify the impact of the 'educational story' in the development of thinking skills within primary school students in the northern region of Saudi Arabia. Alanazi used a semi-experimental study approach to assess the impact of story narration as a teaching tool. The sample consisted of 60 students aged between 6 and 14 years with low, medium, and high IQs (30 students in the experimental group and 30 students in the control group). According to Alanazi (2018), in all fields of the targeted thinking skills (fluency, originality, flexibility, and narrative flow), there were differences between both groups in favour of the experimental group. One criticism of Alanazi's work is that she referred to some participants as 'gifted' or 'having learning disabilities', the sampling process was random, with a variety of IQ levels. I am assuming that she defined the children based on their IQ scores as 'gifted' or as having 'learning disabilities', but children can have both conditions simultaneously (see Section 1.3 and 2.10).

In the Saudi context, the use of creative drama is still a new field that needs to be investigated further. The current study is a step towards understanding the use of creative drama as a teaching approach in primary schools, with teaching thinking skills to children with LD as a focus.

Developing thinking skills through creative drama - In Davis and Behm's (1987) definition of 'creative drama', some parts of the definition indicate the promotion of thinking skills. The authors mention that 'the leader guides the group to explore, develop, express, and communicate ideas, concepts, and feelings through dramatic enactment' (p. 10). Looking

deeply into this part of the definition helped me to anticipate that there is a thinking process and an implementation of thinking skills within creative drama activities. In the same definition, the authors stated that, in creative drama, the group of children ‘improvises the action and dialogue appropriate to the content it is exploring, using elements of drama to give form meaning to the experience’ (Davis & Behm, 1987, p. 10). Thus, the children’s thoughts and actions with the group work is reconstructed in relation to the other participants and perspectives (Freeman, Sullivan, & Fulton, 2003).

Improvising action and dialogue appropriately could be seen as a problem-solving situation. Improvisation requires children to comprehend the given task and to interact collaboratively to reach a conclusion through interactive dialogue (Saka et al., 2016) in an activity that is problematic in nature (Lehtonen, Kaasinen, Karjalainen-Väkevä, & Toivanen 2016). By posing problematic situations to the children, leaders encourage thinking through emphasis on multiple skills, such as classification, fact-sorting, and, most importantly, decision-making (Ehrlich, 1974). Then, according to McCaslin (2006), the objective of creative drama can be ‘to gain understanding, challenge thinking, and develop compassion’ (p. 263). Finally, the last part of Davis and Behm’s (1987) definition states that creative drama ‘requires both logical and intuitive thinking, personalises knowledge, and yields aesthetic pleasure’ (Davis & Behm, 1987, p. 10). Hence, creative drama promotes understanding rather than memorisation (Hendrix, Erick, & Shannon, 2012), helping children to construct and reconstruct their knowledge (Davis, 2003).

2.14. Rationale for using creative drama to foster thinking skills in children with LD

Researchers suggests that there are some advantages to creative drama becoming part of the classroom, such as developing thinking skills, communication skills, emotional expressions, and self-confidence (see for example, McCaslin 2006; O'Neill, 2008). Such research has argued that this will occur through encouraging dialogue between participants, changeable knowledge and perspectives within improvisation, and an imaginary context where

participants are pretending and playing together. This was recognised by Zaghoul (2018), who argues that a significant number of research studies have demonstrated that using creative drama to teach thinking skills leads to enhancement, acceleration of learning, and learning of other skills within creative drama activities. Therefore, one of the general aims of using creative drama in teaching is maximising learners' opportunities to think, reflect, evaluate, and communicate; they will need to be able to adapt fictional roles that can 'be assumed, modified, elaborated, refined, and relinquished' (McCaslin, 2006, p. 264), which leads the learner to discover their 'inner strength of knowing' (Zaghoul, 2018, p. 71) in a real context.

In relation to thinking skills, there is empirical evidence (e.g. Bailin, 1998; Dikici, Yavuzer, & Gundogdu, 2008; Ehrlich, 1974; Epccedil, 2013; Gündoğan, Ari, & Gönen, 2013; Karakelle, 2009; Uzunöz & Demirhan, 2017; Zaghoul, 2018) that confirms the impact of creative drama on developing learners' ability to understand and appreciate others' perspectives and opinions (Zaghoul, 2018). Empirical research also shows that creative drama helps learners to make choices and 'take responsibility' for their actions in 'a safe, respectful and nurturing' (Uzunöz & Demirhan, 2017, p. 165) learning environment. They learn through reflecting upon their own past and present. Thus, it raises their self-awareness towards their views, judgements, decisions, and learning (Karakelle, 2009; Ustuk & Inan, 2017; Uzunöz & Demirhan, 2017). In special education, empirical research (e.g. Guli, Semrud-Clikeman, Lerner, & Britton, 2013; Metcalfe et al., 1984; O'Neill, 2008) also supports the use of creative drama as a learning medium for children who are identified as gifted, slow learners, with autism spectrum disorder (ASD), or with attention deficit hyperactivity disorder (ADHD). Empirical research confirms that the use of creative drama within special needs education could structure a context that addresses learners' difficulties. Research also shows that children with learning disabilities as well as those labelled as gifted were able to exercise and develop thinking skills such as fluency, originality, flexibility, and narrative flow (Alanazi, 2018).

Some studies (Gündoğan et al., 2013; Zaghoul, 2018) have recommended further research on using creative drama to teach and develop thinking skills in general or to target specific thinking skills (e.g. critical thinking or reflective thinking) in order to explore the possibilities for the development of thinking skills within creative drama activities.

The current research is based on personal experience that has led me to focus on thinking and on developing thinking skills for children with LD in mainstream schools. This experience has helped me to understand the literature of both creative drama and thinking skills in relation to the learning process of children with LD. It has also led me to realise the difference between an interactive learning environment and participatory learning environment. In fact, from my observation, I understand that memorisation and passive learning are the ‘norm’ in the Saudi educational system even with new textbooks designed to be taught in a collaborative setting. Children with LD in mainstream schools require a modified learning setting that meets their needs. Also, teaching thinking skills is a dynamic process that requires more than a textbook. In Section 1.2. I mentioned that I had informally researched the use of creative drama; from my observations, and concerning the dialogic perspective, I would argue that thinking is developed and shaped within a learning environment that keeps the child in the dialogic mood even when ‘sitting in silence’.

The empirical studies’ recommendations and my experience with, and observations of, children with LD have combined to shape my belief in the significance of creating a learning environment for developing thinking skills that is active, flexible, and safe, and that can be modified based on learners’ needs and the targeted thinking skills. According to the literature review, creative drama offers a natural dynamic learning environment that can serve the aim of this thesis.

2.15. Summary of the literature review

In this chapter, I explained from a sociocultural perspective how the learning process can be located within individuals’ interactions with each other and their learning context. To this,

a dialogic perspective on learning and developing in general, and on thinking in particular, can be added, from which learning and meaning can be constructed, be negotiated, and emerge within a social context. Concerning the role of dialogue in learning and developing thinking, I argued that the functions of language as a cultural tool could expand to be a way of creating knowledge, and language can be seen as a tool that people can use to exercise general thinking skills.

The sociocultural perspective varies between researchers, but people interested in thinking, language, and learning have situated the development of knowledge as a cultural tool. This chapter drew upon this point of view and focused on teaching and developing thinking skills by exploring the existing literature in this particular field. I started this chapter by studying the notion of thinking skills by examining the main metaphors about the sociocultural perspective. I argued the need for a comprehensive and practical definition of thinking within an educational setting. This was followed by the argument that the ambiguity of thinking skills' definition can be resolved by having a clear goal for the mechanism of the term. I agreed with Swartz et al.'s (2008) definition of thinking skills (to some extent), and I defined thinking skills as 'tools' that can be practised, including cognitive function. Following the definitions, I paid attention to thinking skills frameworks and presented Moseley et al.'s (2005) framework as guiding this thesis.

In this chapter, I presented the movement of thinking skills in Saudi Arabia as background to provide a picture of what the Saudi educational system has done and is doing to teach thinking skills, particularly in primary school. I also paid attention to studies of the approaches to teaching and developing thinking. Since this research is design-based, the analysis of the relevant literature to develop the initial design principles of this thesis is a key help in the current research study. The outcomes of this analysis have been taken into account as much as possible, especially those about fostering thinking skills in children with LD. Therefore, I concluded this chapter by exploring the studies that focused on teaching thinking with special

needs education in general, and learners with LD in particular, followed by discussing the cognitive characteristics of children with LD. In this conclusion, I have argued that children with LD in Saudi Arabia need more attention regarding fostering their thinking skills. This thesis aimed to foster thinking skills in primary school children in Saudi Arabia who have been identified as having LD by using creative drama as a medium of teaching. Therefore, the next chapter will focus on examining the related literature to develop an understanding of what ‘creative drama’ is and how its principles can influence this design research.

To sum up, the literature review has revealed that the concept of ‘learning difficulties’ is not clear and there is a need to understand this concept in terms of how it is used in a particular context. In general, children with LD show lower accomplishment than the expected level of their age. In terms of teaching and learning thinking skills, most research has found that thinking skills can be taught and enhanced by using different approaches and methods. Research has confirmed that the choice of approaches and methods depends on how teachers/researchers want to teach and why. Nevertheless, regarding the thinking skills movement in Saudi Arabia, the literature review shows that teaching thinking skills to children with LD as a research area has been neglected, and there is a need to explore a teaching method that can meet the needs of children with LD and accomplish the vision of having an entrepreneurial generation. An additional limitation of the literature concerns the use of creative drama activities. Generally, the literature review significantly argues the usefulness of employing creative drama as a teaching method to develop and enhance some specific and general thinking skills among different age groups. However, most of the recently published empirical literature is from Turkey, whose educational system is different from the Saudi one. However, there is no drama background in the educational literature to determine the gap. As a method for teaching thinking and communication skills, creative drama is recommended by Zaghoul (2018) to be used with younger learners to support their cognitive development. Finally, hardly any research has combined the three areas to understand the contribution of

creative drama to fostering thinking skills in children with LD, particularly in Saudi Arabia. Therefore, through this research design, I will seek to address the previously mentioned limitation to gain a better understanding of the development of thinking skills of children with LD.

2.16. Overview of the research

This thesis aims to understand the nature of creative drama in fostering thinking skills in mainstream schoolchildren in Saudi Arabia who have been identified as having LD. It defines learning and development as a natural process associated with the context in which learning occurs. Relying on a sociocultural perspective, this thesis defines thinking as a cultural tool that is dialogically constructed between individuals, their interactions, and the context of the dialogue (Wegerif, 2007), where thinking skills are tools that are gained, enhanced, and defined within and by culture. However, because this study is aimed at understanding the contribution of the learning context (creative drama) to the learning process (developing thinking skills) of children with LD, I had to look into the dynamic and interactive nature of the context where the construction of meaning and the development of thinking skills happen (Wegerif & Mercer, 1997). This nature is defined by Wegerif (2007) as the dialogic space of thinking (see Section 2.4.2). Adapting the dialogic space of thinking as a principle in this thesis offered me a flexible definition of the boundaries of the learning context which navigated my understanding of the contribution of creative drama to developing thinking skills in children with LD.

The literature review had two main aims: First, it offered me a conceptual and theoretical understanding that acted as a framework for this thesis. According to Maxwell (2006), this modelling of the existing literature is beneficial – one of the reasons why PhD students often start with the literature. The second contribution of the literature review was to the research design – this research aimed to develop a set of design principles that can be used by others who are interested in the same research area, i.e. teaching thinking skills to children with LD through creative drama activities. Analysing the relevant literature was the preliminary stage,

guided by a sociocultural perspective as a theoretical framework; primary school age and Saudi Arabia were factors of the general context of the research. Synthesising the outcomes of this stage (literature review) concerning the focus of this research, I developed a set of principles that guided the empirical part of the thesis; the process of developing the preliminary version of the design principles will be discussed in Section 2.17.

2.16.1. Research question

In light of the review, through adopting a sociocultural perspective, this research aims to understand how to foster general thinking skills in children identified as having LD in a mainstream school in Saudi Arabia through the use of creative drama.

The main question:

- How can the thinking skills of children with LD be foster through the use of creative drama?

The sub-questions:

- What kind of thinking skills are fostered through the creative drama process?
- What are the indications/signs of thinking skills that are stimulated during the creative drama session? And how is this demonstrated by the behaviour of children with LD?

2.17. Initial design principles of using creative drama as a medium for teaching thinking skills

To serve the aim of this thesis as explained earlier, and to figure out the intrarelationship between creative drama, thinking skills, and the development of children with LD within an active changeable learning context, there was a need for a flexible approach that suited the characteristics of the three elements. Thus, I decided to use design-based research (DBR) as a methodological approach for the current study. DBR, as I will explain in Chapter 3, provided me with an opportunity to design and re-design creative drama sessions in a way that helped unearth the interactive and dynamic connection between creative drama activity, fostering thinking skills, and the participation of children identified as having LD. With respect to the

sociocultural perspective as a theoretical framework, this section aims to offer an understanding of how I combined the principles based on the cognitive and learning characteristics of children with LD as defined in a Saudi context, creative drama as a teaching method and learning medium, and finally, strategies and approaches of teaching and learning thinking skills.

Children with LD often learn at a slower pace compared to their peers and they show accomplishment below the expected level of achievement. Their cognitive delay can be perceived in their communication skills, emotional expressions, and self-esteem (Moscardini, 2010; Norwich et al., 2012). However, in spite of these barriers, the literature on the subject affirms that children with LD have the ability to learn strategies and tactics that help them to use their thinking skills (Khattab, 2006). Their learning process requires tolerance and time. In terms of their learning of thinking skills, researchers affirm that the key to this is the manner in which they are taught in the classroom (e.g. direct or indirect) (Khattab, 2006; Montague et al., 2014).

Thinking skills are tools that involve both basic and advanced skills, which are a combination of knowledge, characteristics, and metacognition (Swartz et al., 2008). According to Beyer (2008), they are the fundamental tool for 'effective thinking' (p. 223), which this research aims to establish among children with LD. This study focuses on general thinking skills which in relation to Swartz et al.'s definition are an integration of both cognitive and metacognitive skills. Thus, this thesis empirically deploys Moseley et al.'s (2005) thinking skills framework which is not restricted to cognitive skills only and emphasises the implications of all forms of thinking (i.e. creative, critical, and caring thinking, strategic and reflective thinking) that are applicable to an individual's activity and joint activities as well (Moseley et al., 2005).

In Section 2.8. I discussed teaching and developing thinking skills as fundamental tools that need to be taught in schools. And because general thinking skills are essential to a child's

learning and development (Beyer, 2008), I aimed to maximise the children's opportunity to explore and practice these skills within creative drama by having four main pillars guiding the establishment process of these innovative design principles: collaborative learning, direct instructions, dialogic teaching/thinking together, and providing enough time to the children (see Section 2.8 for more details). For the sake of having a design principle that was as comprehensive as possible, I combined the characteristics of 'learning of children with LD' and 'learning and development of thinking skills' into one. I found out that both require enough time to develop, a space to develop through experience, and guidance (e.g. instructions).

Since this thesis is based on the idea that thinking is a cultural tool that happens in the form of dialogue, then from a sociocultural perspective, collaborative learning, thinking together, and interaction are a crucial aspect of the design principles. Some might argue that the notion of 'collaboration' contradicts the barriers faced by children with LD (e.g. lack of communication skills), which implies that creative drama could not be suitable as a medium of learning for children with LD. Despite the fact that creative drama literature affirmed the effectiveness of using it with children with special needs (e.g. Alanazi, 2018; Metcalfe et al., 1984; O'Neill, 2008), this argument was one of the issues that I was aware of regarding using creative drama with children with LD. Therefore, creating a safe environment was one of the principles that guided this research.

Creative drama is 'an improvised enactment in which informal play-making is planned and played with spontaneous action and dialogue' (Szecsi, 2009, p. 120). As a teaching method, it is improvisational, non-exhibitional, and process-centred (see Section 2.12.1). Creative drama activities are participatory, dynamic, and problematic in nature, and include physical and verbal engagement. The leader of a creative drama activity has a huge role in ensuring the effectiveness of this teaching approach. In Section 2.12.1, I explained the various responsibilities of a session leader in terms of planning the session, directing the activity, supporting the children during the activity, being a participant in the group and not only a

leader, etc. I also mentioned that I would divide the design principles of this research based on the factors mentioned in Abone's (1990) definition of a creative drama teacher; therefore, I modified the factors to suit the aim and the context of this research design.

In light of the aforementioned review, I would highlight that the preliminary version of the design principles was categorised by the adult's role within a creative drama session; accordingly, there are three main aspects: 1) planning for the creative drama session, 2) creating a safe and supportive environment, and 3) leading the creative drama session. The principles beneath each category were underpinned by the sociocultural perspective and guided by the four pillars of the design, as mentioned above, with respect to the cognitive and learning characteristics of children with LD.

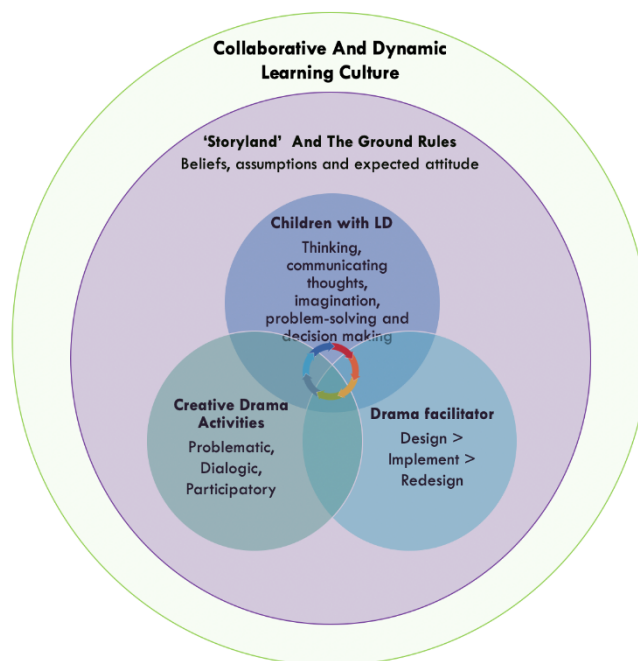


Figure 2.2. The elements of the collaborative learning culture

Before listing the principles, I would like to introduce Figure 2.2. This shows a holistic model that presents the interactions and the interrelationships between the components of this DBR: creative drama, children with LD, and the role of the facilitator within the focus of fostering thinking skills. It worth pointing out that this model is one of the main findings of this DBR, as will be explained in Chapter 5. The model is included here for two reasons:

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- The important elements within this study are many compared with other research. For example, there is the iterative notion of conducting the iteration and redesigning the design principles, and there are the open-ended creative drama activities. Thus, Figure 2.2 illuminates how all these elements linked dynamically for the sake of answering the research question within the sociocultural perspective.
 - The presentation and discussion of the findings in Chapter 4 and Chapter 5 will be based on the events occurring within the process of this DBR. Thus, having a holistic picture of the findings might enable a clearer understanding for the reader.

2.17.1. The Preliminary version of the design principles

The preliminary version of the design principles flexibly guided Iteration One of Phase One. These design principles were introduced to the teachers during the introductory week of each iteration. Subsequently, the teacher and I amended the principles based on our own practices. There were three main aspects of the preliminary design, each of which included several related principles.

1. Planning for creative drama session:

- Each session must include all the creative drama elements (warm-up, main activity, and closing-up).
- Each session focuses on one of the thinking skills from Moseley's (2005) frameworks (starting with cognitive thinking skills and then strategic and reflective thinking).
- Each session has to follow a theme, on which the objective of that session will be based.

2. Creating a safe and supportive environment:

- Each session has to start by going to the imaginary land called 'Storyland', where the following ground rules apply:

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1. All answers are acceptable—there is never a wrong answer.
 2. Listen to each other carefully.
 3. Respect each other's ideas and never make fun of any answer or idea.
 4. Laugh out loud and smile whenever you want.
 5. Look out for each other all the time and move cautiously so we do not hurt each other.
 6. Think and share your thoughts.
- Each session has its own materials and needs; thus, the layout of the room has to be organised carefully before the session.
 - Participants have to be gradually exposed to the creative drama activity while they are participating.

3. *Leading the creative drama session:*

- Open a dialogue making participants aware of the possibilities they can achieve based on their collaboration.
- Invite different levels of participation by providing the participants with a chance to work in a small group, in pairs, or as one large group based on their varied levels of learning ability, motives, and interest.
- Focus on thinking skills rather than attempting to determine their expectations and creativity.
- Encourage the participants to think and practise their thinking skills by creating events, situations, and prompts that enable them to discover new ways to think.
- Establish a rhythm for the creative drama session—a stable tone in the instruction is useful for maintaining a level of organisation.

Chapter 3

METHODOLOGY

3.1. Introduction

This chapter presents and discusses the details of the research methodology, explaining the research design and the methodological approach that I have adopted for this project. This chapter first describes the philosophical assumptions of this research and justifies the assumptions underpinning the adoption of constructivism/interpretivism in this research project. Then, it will describe the research design, followed by the methodological approach. Design-based research (DBR) was employed to achieve the main goal of this research project, to understand how the thinking skills of children with learning difficulties (LD) might be fostered through the use of creative drama. Next, I will highlight the main characteristics of the participants and their schools and the way these schools and participants were selected. To describe the research procedure clearly, I will introduce in detail the methods of data collection and discuss the rationale for choosing this method, as well as describing the research procedure of both phases of this DBR.

I will continue the methodological details in this chapter by describing the analysis approach, starting by specifying which type of data have been gathered and why, and I will also highlight the issue of transcription and translation. That will be followed by clarification of the analysis approaches that were used. The subsequent section will address some considerations of trustworthiness, particularly in relation to the philosophical assumption of this DBR. Next, I will discuss the limitations of this DBR in terms of raising criticisms and challenges of adopting DBR (i.e., context and time span), data collection methods, implications, and the gaps that the current DBR could not fill. Before I conclude this chapter, I will discuss the ethical considerations of this DBR.

3.2. Philosophical assumptions

In Chapter 2, I discussed the sociocultural theory as a paradigm for understanding whether thinking is an individual or a social process. This theory allows me to understand the individual's mental functioning and cognitive development within the culture and the whole societal context. However, others might argue that the term 'paradigm' is not suitable for describing a theoretical framework. I agree with that, but I used it because the philosophical understanding of this research was influenced by multiple views on learning based on this theory (i.e., Vygotsky's work, Piaget's work, and Bakhtin's work). In general, all three scholars within the sociocultural perspective had significant impacts on the philosophical understanding of social science research, where this current research is positioned. The terminologies around the philosophical assumptions of the sociocultural theory are debatable, and some of these terminologies tend to be used interchangeably among literature (e.g., interpretivism, constructivism, and naturalistic; Chilisa & Kawulich, 2012; Lincoln & Guba, 1985; Mack, 2010). For the sake of understanding the philosophical assumption of this thesis, this section focuses on two terms, interpretivism and constructivism, which, according to Gray (2013), have a clear distinction as two different paradigms.

In contrast to Gray's view, some scholars have discussed both terms as one paradigm, 'constructivism/interpretivism', where 'interpretivism' refers to the methodology (Walsham, 1997) and 'constructivism' to the epistemological position that explains the relationship among researcher, participants, and context in relation to the knowledge (Glaserfeld, 1990), which is where this research could stand (further discussion is provided in Section 3.2.1). However, the debate about the philosophy of natural science goes beyond these two terms. Therefore, to start, I need to define some related philosophical terms (e.g., ontology and epistemology) to understand the fundamental philosophical assumptions that underpin this research. The term 'ontology' is the starting point (Crotty, 1998), concerned with the 'issue of existence'

(Anderson & Biddle, 1991, p. 160). It is the researcher's assumption about 'reality' (Denzin & Lincoln, 2011), whether reality is created socially or already exists (Pring, 2004).

The second term is 'epistemology', a simple clarification of which is 'the theory of knowledge' (Hamlyn, 1995, cited in Crotty, 1998). Further, it refers to the 'value' of knowledge based on the way an individual acquires it (Anderson & Biddle, 1991, p. 162). Therefore, the relationship between an individual and his or her knowledge is what epistemology investigates (Anderson & Biddle, 1991). This relationship is the nature of knowledge, which has two different forms according to Burrell and Morgan's (1979) definition of epistemology: an objective form and a subjective form. These two natures limit researchers in natural science to either believe in scientific methods, where phenomena can be measured (objective form), or reject that belief (subjective form) (Cohen, Manion, Morrison; 2007). This could mean that philosophical assumptions have to be purely subjective or purely objective. Although some scholars believe that paradigms cannot be mixed in terms of their assumptions or methods (Maxwell & Delaney, 2004), others dispute that belief and reject that conflict (e.g., pragmatism and constructivism). However, if constructivism and interpretivism are two different philosophical paradigms, I agree with researchers who argue that assumptions can be mixed—besides, the current research's philosophical stance is placed between two paradigms (constructivism and interpretivism), where there is an overlap between the definitions of these underlying assumptions.

As mentioned before, this design-based research is guided by a sociocultural perspective, in which the relationships among the researcher, participants, context, and culture play a role in articulating the understanding of a phenomenon. In light of this point, in the following section, I will discuss the differences between interpretivism and constructivism as two paradigms in terms of their philosophical assumptions, as well as how the overlap between these assumptions has caused the interchangeable terminology between the two paradigms.

Finally, I will conclude the section with where the current research positioned and the rationale behind that.

3.2.1. Constructivist/interpretive paradigms

Since a paradigm is a combination of ontological and epistemological assumptions (Mack, 2010), the easiest way to differentiate between the mentioned paradigms is to highlight the assumptions that distinguish them. However, it was hard to contrast interpretivism with constructivism because of the overlap between both paradigms' beliefs.

As mentioned above, ontology is about 'reality', and it asks about the existence of knowledge (Anderson & Biddle, 1991). Both interpretivism and constructivism are based on the assumption that reality is multiple rather than single (Burrell & Morgan, 1979; Crotty, 1998; Mack, 2010) because it is seen and interpreted differently by different individuals (Mack, 2010). Thus, reality is 'subjective and influenced by the context' (Ponterotto, 2005, p. 130) and socially constructed and informed by the individual's experience. In addition, Chilisa and Kawulich (2012) defined constructivist and interpretative as related concepts; they argued that the researcher should understand the world as individuals live it and experience it because reality is socially constructed through the interpretation of experience (Thanh & Thanh, 2015). However, Thomas (2014) demonstrated the concern that the interpretive paradigm is limited in its understanding of the world as it is from the subjective experiences of individuals—that is, the process is subjective and considers social factors (e.g., environment and relationships). In contrast, the construction process within the constructivist paradigm emphasises a socially constructed reality. Therefore, it is concerned with understanding how participants construct reality in their minds from the world around them (Ponterotto, 2005).

Moving into the comparison between the epistemological assumptions of the proposed paradigms, both support the importance of interactions between participants and the researcher (Ponterotto, 2005) because reality is constructed through personal experience (Mack, 2010). Thus, the researcher has an active role within the interpretive and the constructivist paradigm.

However, as with ontology, the focus is different: Interpretive paradigm research aims to recognise the participants' understanding of a context (Chilisa & Kawulich, 2012), whereas constructivist research seeks to uncover constructions (Guba & Lincoln, 1994).

The question now is how the researcher of each paradigm implements these assumptions in practice. In other words, what does the researcher count as 'truth'? As mentioned above, knowledge is not objective, but it is subjectively constructed within both paradigms, and it is 'mind constructed and mind dependent' (Chilisa & Kawulich, 2012, p. 10). Researchers have different positions regarding the 'truth' within these paradigms—the interpretive paradigm asserts that 'truth' is relative to the participants and social context (Cupchik, 2001). This indicates that the interpretation of data is based on the interactions of the participant(s) with consideration of the other aspects of the context (e.g., culture and gender). In contrast, not only do constructivist paradigm researchers believe in subjective knowledge, but they believe that there is no match between internal knowledge and the external reality (Doolittle & Camp, 1999); they are more concerned with meaning than with structure (Ponterotto, 2005). Hence, 'there is no privileged "truth"' because the meaning will be constructed by multiple perspectives and by multiple representations of a social context (Doolittle & Camp, 1999, p. n.a.).

Taking the above discussion into account, I found the ontological and epistemological assumptions of constructivism to be useful for my project. My reason for its adoption is that it is closely related to the nature of DBR, in which the outcome (knowledge) is flexible and might change during the process of construction. In addition, any DBR is completely based on practice and aims to develop both theories and practice iteratively. Using this, the significance of my research is based on the iterative nature in which it is beneficial, and this is what constructivism requires. In constructivism, reality is subjectively constructed, and the researcher's role is to uncover these constructions. Therefore, constructivist researchers tend to consider all the social aspects of the context (e.g., classroom, age, and culture) of their

research based on the research question. This role of the researcher aligns with what this DBR aims to achieve: understanding how the thinking skills of children with LD might be fostered with the use of creative drama. To answer the ‘how’, I have to consider all the social aspects as well as take into account the meanings that been constructed within the process. However, this role does not apply to the interpretation of the data because I cannot claim that this research will develop one objective reality based on the participants’ interaction and representation of context. Since this DBR is looking for understanding, it needs to focus on structure and how it might be constructed. Therefore, this DBR adopts the interpretive methodological assumption that the truth/data are interpreted based on the full picture of a particular social context.

3.3. The methodological approach

The popularity of design-based research as a methodological approach has increased within the educational research field (Ørngreen, 2015). It evolved in the 1990s (Štemberger & Cencič, 2014); the term ‘design-based research’ was established by the American psychologist Ann Brown in her article on the challenges and complexity of interventions in the educational technology field (Brown, 1992). She claimed that in the education field, inquiry was needed to fill the gap between researchers and practitioners. In addition to Brown, other researchers from various genres of education argued the need for a research approach that could address the complexity of an educational problem. For example, in 2003, the Design-Based Research Collective (DBRC) argued that there was a credibility gap between academic researchers and everyday practice (problem and issue), which required a new research approach that could develop ‘usable knowledge’ (DBRC, 2003, p. 5). The need for such knowledge that could be understood and implemented worldwide was also argued by Van Den Akker (1999, p. 2), who disputed the limitation of knowledge that resulted from the descriptive emphases of the ‘traditional’ research approaches (e.g., surveys and correlation analysis) for the design and development of a complex research problem. Therefore, he called for an approach that supports the design, development, and implementation process across educational contexts (Plomp,

2013). In the field of educational technology, Reeves (2006) in his chapter in *Educational Design Research*, concluded that researchers in educational technology had to shift their studies from focusing on comparison to undertaking design-based research to develop solutions for educational problems in the real-life context. Along with Barab and Squire (2004), these resources illustrate the need for a design-based research approach in which researchers can systematically modify different aspects of the designed context so that each modification ‘served as a type of experimentation that allowed the researchers to test and generate theory in naturalistic contexts’ (p. 3).

It worth pointing out that through time, different terminologies and expressions have been used (e.g., development research, design research), although according to Anderson and Shattuck (2012), design-based research (DBR) is the most common term. Therefore, I will use this term to describe my research methodology. Moreover, despite the different terminologies, across educational literature, DBR is recognised as an intervention approach whereby researchers in a real-life context can systematically design products in order to generate theories in the field of their study and to further iteratively develop a particular design (Ørngreen, 2015). This section provides an overview of DBR by synthesising the various characteristics of DBR. It also aims to thoroughly provide an explanation of the process of these characteristics, and finally, it ends with the rationale of why I chose DBR as the methodological approach for this research project.

3.3.1. Characteristics of design-based research

The characteristics of DBR have been recognised by the Design-Based Research Collective (2003), Anderson & Shattuck (2012), and others. Here, I will define DBR as an approach through synthesising these characteristics. DBR is a type of research that combines empirical research with the theoretically established shaping of a learning environment (DBRC, 2003). This combination and the performance of theory occur in a real educational situation (i.e., the classroom), which means that the outcomes can be adapted to and improve other similar

learning environments (Anderson & Shattuck, 2012). DBR's purpose is to solve educational problems, contribute to theory, and improve practice through design innovation (DBRC, 2003). In addition, the development of learning theories and the design of learning environments can be intertwined (Brown, 1992; DBRC, 2003). Thus, DBR can be labelled as an interactive approach (Štemberger & Cencič, 2014) and a participatory one, as it involves collaboration between researchers and practitioners (Anderson & Shattuck, 2012). The collaboration is the outcome of the relationship between the teacher's knowledge (e.g., school culture and students' abilities) and the researcher's skills (i.e., conducting in-depth study). This collaboration emphasises the notion of partnership (Anderson & Shattuck, 2012), which involves a joint definition of the problem, designing the innovation, and evaluating and redesigning the innovation (Štemberger & Cencič, 2014). Although the collaboration varies from study to study, it means that both parties acquire the objective from both a real learning context and an academic perspective (DBRC, 2003).

Another crucial characteristic of DBR is that it has a 'cyclical nature' (Plomp, 2013, p. iv), or it is multiple iterations of steps, which, according to Štemberger and Cencič (2014), is a basic quality of design-based research. Barab and Squire (2004, p. 2) used the term 'series of approaches' to define DBR, which indicates the repetitive processes of conducting and reconducting (McKenney & Reeves, 2012). Consequently, this process is like 'research through mistakes' (Anderson & Shattuck, 2012, p. 17) because each innovation can be improved and redesigned, which means that 'iterations are necessary' (Štemberger & Cencič, 2014, p. 65). The researcher systematically 'attempts to refine the innovation' (Amiel & Reeves, 2008, p. 34) in order to conclude. However, the iterative notion of DBR is one of this approach's critiques, since it is difficult to know when the research has concluded. Some might argue that a researcher has to conclude when there are no new possibilities for enhancing the innovation (Štemberger & Cencič, 2014). Others, such as Plomp (2013), have suggested that the process of designing, evaluating, and revising has to be iterated until the research reaches

‘an appropriate balance between the ideals “the intended” and realization has been achieved’ (p. 17), which leads to the point that the number and the length of iterations vary from study to study (McKenney & Reeves, 2012).

Anderson and Shattuck (2012) reviewed the key characteristics of DBR through analysing the five most cited articles over a decade (from 2002 to 2012). They structured their article based on the findings that emerged, in addition to comparing it to action research, they suggested that high-quality DBR can be defined by the following:

- Being situated in a real educational context
- Focusing on the design and testing of a significant intervention
- Using mixed methods
- Involving multiple iterations
- Involving a collaborative partnership between researchers and practitioners
- Evolution of design principles
- Practical impact on practice

Their definition aligns with Wang and Hannafin’s (2005) definition of DBR as ‘a systematic but flexible methodology [aiming] to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories’ (pp. 6–7). Drawing upon both articles, DBR in education focuses on a predesigned product (e.g., an educational curriculum or software) and its implementation within a real educational environment. Then, this design will be iteratively refined and developed throughout several stages. These stages provide knowledge and empirical experience about how the design works in a real context, informing further similar educational research about how it would work.

A final general characteristic is that DBR is often acknowledged as a mixed-methods approach (e.g., Anderson & Shattuck, 2012; Walker et al., 2011). That might be because most

of the literature has allocated DBR within pragmatic paradigm as an appropriate philosophical paradigm (Alghamdi & Li, 2016; Barab & Squire, 2004; Juuti & Lavonen, 2006). However, the methods of data collection in DBR are not different from those of other research methodologies (Van Den Akker, 2012). Thus, the three approaches to data collection and analysis (i.e., qualitative, quantitative, and mixed methods) can be involved in DBR (Migiro & Magangi, 2011), and the researcher can pragmatically employ the methods that are harmonious with the research question(s) (MacDonald, 2008).

To sum up, DBR aims to address a complex educational problem to bridge between a real learning environment and educational research. It is conducted collaboratively based on an already-developed design based on the analysis of the existing literature. Within the active process of DBR, this design is iteratively and thoroughly implemented, evaluated, redesigned, and developed. Even though DBR is situated within a complex real context, it is a flexible process that is open to change to address the research problem. Within DBR, different outcomes can be obtained; it produces empirical knowledge that can be implemented in or adapted to a similar learning environment; also, it can produce new theories or elevate an existing theory.

3.3.2. Process of design-based research

Although design-based research is a dynamic and interactive approach that is open to changes, evolves, and involves multiples stages, the research process in DBR is conducted in a systematic manner (Plomp, 2013). Therefore, ‘analysis, design, evaluation and revision activities are iterated’ (Plomp, 2013, p. 17) cyclically and systematically. The number of iterations and stages across definitions of DBR are varied; however, as mentioned earlier, the key to concluding is finding a satisfying balance between the innovative design and the inquiry that has been obtained (Plomp, 2013). Moreover, because of the lack of an established process of conduct for DBR, since ‘it is still an emerging methodology’ (Alghamdi & Li, 2013, p. 5), this process has been illustrated in many different ways, and various designs of conduct have

been suggested by researchers in the literature (Juuti & Lavonen, 2006; Plomp, 2013; Wang & Hannafin, 2005). Due to the limitation of space, I will present and contrast only three examples here to show the differences in visualising the DBR process.

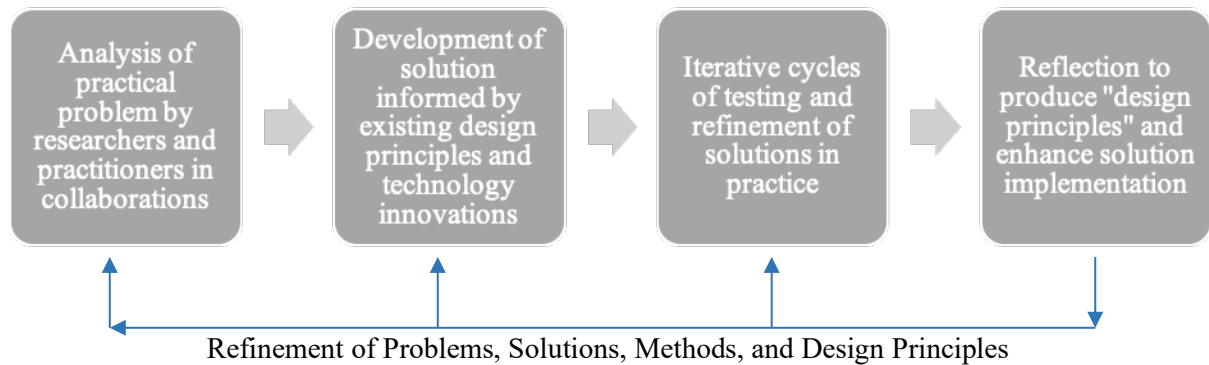


Figure 3.1. Four-stage design research model (Reeves, 2006, p. 59)

First, Reeves (2006) suggested a four-stage design: refinement of the problem, finding solutions, methods, and reflecting to produce design principles, as presented in Figure 3.1. These stages comprise close collaborative work between researchers and practitioners on a particular educational problem that might face the practitioner or interest the researcher. Moreover, Reeves (2006) pointed out that, through clarifying the educational problem, along with creating, adopting, and adapting a solution to it, the outcomes of this model should produce design a model with ‘empirical impact’ and principles with ‘theoretical impact’.

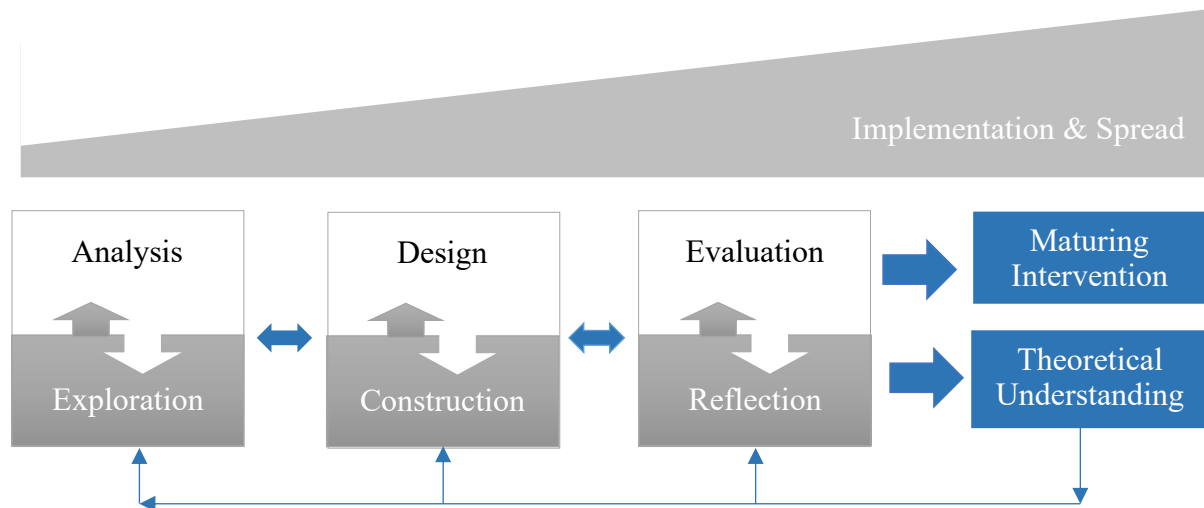


Figure 3.2. A generic model for conducting DBR by McKenney and Reeves (2012, p. 77)

Reeves' model (2006) is an abstract design that to some extent failed to illustrate the cyclical nature of design-based research and the number of iterations required to produce appropriate outcomes (Pool & Laubscher; 2016). Consequently, building on the first model, McKenney and Reeves (2012, p. 77) developed a less wordy model (see Figure 3.2) that refers to the generic model for conducting design-based research in education. It depicts the three essential elements of design-based research, analysis, design, and evaluation, each represented by a different shape. First, the squares, along with the arrows between them, represent in a flexible, iterative structure the three core stages of any design: 'analysis and exploration', 'design and construction', and 'evaluation and reflection'. Then, the rectangles represent the dual focus on theory and practice, and, finally, the trapezium at the top indicates that the model is use-inspired. The generic model shows 'a single, integrated research design process' (McKenney & Reeves, 2012, p. 77).

The second example is provided by Instructional Technology Ph.D. Students at the University of Georgia (2006a). They have provided a four-section online tutorial for researchers and practitioners interested in conducting DBR. In the enactment section, they identified nine steps in the process of conducting DBR (Instructional Technology Ph.D. Students, 2006b):

-
1. Begin with a meaningful problem,
 2. Collaborate with practitioners,
 3. Integrate robust theory about learning and teaching,
 4. Conduct literature review, needs analysis, etc. to generate research questions,
 5. Design an Educational Intervention,
 6. Develop, implement, and revise the design intervention,
 7. Evaluate the impact of the intervention,
 8. Iterate the process, and
 9. Report DBR.

The chronological outline of the process indicates the systematic nature; however, all nine steps can obviously be associated with McKenney and Reeves's (2012) generic model. To illustrate, the first four steps in order are when the researcher collaboratively explores and analyses the literature to formulate the research problem based on a real-life educational context. Following that is the stage of designing and constructing the innovation design principles (which is steps 5 and 6 in the previous list). The last cluster is the dynamic one, where the researchers and the practitioners iteratively implement the innovative design and revise it based on real experience until they have reached a satisfying conclusion. The blue rectangles shown in Figure 3.2 illustrate the two forms of outcomes of DBR. Consequently, combining the illustration of McKenney and Reeves (2012) and Instructional Technology Ph.D. Students (2006b), there are three stages of conducting a DBR.

The last example is by Plomp (2013), who also agreed with the three-stage approach. According to Plomp (2013), there are three main stages: first is preliminary research, which refers to the literature review and development of design principles. Then comes the prototyping stage, when the iterative process occurs and the researchers refine the design principles. According to Plomp, the three-stage approach consists of iterations in which the design principles are formatively evaluated. The final stage is assessment, which Plomp

described as a summative evaluation because it is the reached conclusion that usually provides further recommendations for improving the intervention (Plomp, 2013).

Hence, researchers vary in illustrating the process of conducting DBR, but they all agree that it ‘comprises a number of stages’ (Plomp, 2013, p.15). Moreover, within these activities, there is a systematic reflection and documentation to produce both theoretical and empirical knowledge (Van Den Akker, 1999). This systematic process makes a systematically designed intervention become design research (Plomp, 2013). On the other hand, despite the systematic nature of the DBR process, the number of stages and complexity are critiques of implementing DBR for Ph.D. or short projects. However, despite the complexity and number of stages, the key of design-based research is the iteration; McKenney and Reeves (2012) emphasised that a long-term project utilises multiple iterations of design, development, and evaluation to redesign.

McKenney and Reeves (2012) claimed only emphasises the importance of conducting the work in the form of different levels of cycles (i.e., micro, meso, and macro) (Pool & Laubscher, 2016). A cycle is ‘an iterative, flexible process that integrates the empirical and regulative functions’ (McKenney & Reeves, 2012, p. 77). McKenney and Reeves (2012) discussed the different sizes of cycles: micro-, meso-, and macro-cycle. The micro-cycle contains more than one of the three core stages; however, it might include only one iteration. The meso-cycle is a combination of several micro-cycle activities before making any major decision. The last level is the macro-cycle, which is the entire design research process presented in the generic model. The different levels of cycles might indicate the possibilities of differences between DBR implementations based on their flexible design of enactment. For example, Jessica Pool (2014) used design-based research as an approach in her Ph.D. dissertation. Pool’s project was in educational technology, which represents most of the literature on design-based research in the educational research field. The project investigated the inquiries of communities within a blended mode of delivery for technology education. She had only one macro-cycle, which is

the level for the whole research (McKenney & Reeves, 2012). By the end of her project, Pool (2014) was able to contribute theoretically and empirically to the educational technology field.

Tull (2014) presents us with another Ph.D. dissertation example that implemented design-based research as a methodology. Tull's study was about enabling e-learning professional development through a blended community of online practice. Tull also did only one macrocycle during the data collection for her research. Tull had an evident design associated with clear principles for future implementation. Pool (2014) and Tull (2014) are not the only examples; however, both were able to provide sufficient outcomes that contribute to the field of educational technology research. These two examples show that design-based research can feature a short-term project like this current research project.

To conclude this section, DBR has a dual focus that produces theoretical and empirical outcomes. There is no fixed number of iterations; however, DBR has a flexible and iterative structure with three main core stages: analysis/preliminary, design/prototyping, and evaluation/formative assessment. In addition to the criticism mentioned in Sections 3.3.1 and 3.3.2, in the following section, I will present further possible challenges that might be faced by researchers who implement DBR as a research approach.

3.3.3. Potential and challenges of DBR

The basic understanding of DBR's objective is to improve both theory and practice. In the previous three sections, I explained and discussed DBR in depth, highlighting its potential as research approach and some of the challenges. In educational research, the advantages of DBR, which were mentioned above, can be summarised by adapting Štemberger and Cencič's (2014, p. 71) list of the usefulness of DBR:

- a. 'Researching possibilities for using new teaching aids', which is bridging the gap between academics and practitioners through an actual application in a real learning environment (Brown, 1992).

b. ‘Using results to improve practice’: Through the iterative refinement of design principles, DBR can contribute effectively to improve practice (DBRC, 2003).

c. ‘Building’ common knowledge of designing and introducing innovations’ through the collaboration between researchers and practitioners as a team and how this team afterwards forms the outcomes (DBRC, 2003).

d. ‘Development of human capital’: Teachers, stakeholders, researchers and other human capital in the educational field can apply their knowledge and share their understanding, which brings changes in the field (DBRC, 2003).

In comparison to other educational research, DBR is new, and its methodology is still under development, which makes it subject to criticism (Štemberger & Cencič, 2014). In 2004, Chris Dede provided a commentary in three articles published in a special issue of *Educational Researcher* (Vol. 32, No. 1, January 2003). He argued that DBR lacks criteria for deciding whether an innovative design should be accepted or rejected or further researched (Dede, 2004). Moreover, because studies within DBR often have a weak theoretical framework, they do not contribute deeply to theory (diSessa & Cobb, 2004). Another criticism is the problem with data collection (Brown, 1999). Because DBR consists of multiple stages iteratively conducted, the amount of collected data is often substantial, which may lead to contributions to theory (Štemberger & Cencič, 2014). The large quantity of data was also mentioned by Dede (2004), who pointed out that only the first 5% of the collected data ‘were needed to induce the findings’ (p. 107).

As with other educational research methodologies, the rigour of the findings in DBR is a challenge (DBRC, 2003; Juuti & Lavonen, 2006; Plomp, 2007) that appears and is reflected in the data collection and analysis techniques. Although DBR is empirical research (Design-Based Research, 2003), the validity, objectivity, and reliability are questionable because the researcher is closely integrated in the entire process of analysing, designing, evaluating, and implementing (Anderson & Shattuck, 2012; Barab & Squire, 2004; Štemberger & Cencič,

2014). Moreover, across the DBR literature, there are no established criteria for *evaluating* the rigour of the findings of DBR (Alghamdi & Li, 2014), although, there are some discussions and suggestions for *maintaining* the rigour of findings within DBR (Juuti & Lavonen, 2006; Plomp, 2007). Consequently, it is suggested that DBR experts should pay significant attention to establishing clear criteria that can be applied to ensure rigour in the findings of DBR (Kelly, 2004).

The rigour of the finding in this research project will be discussed in detail in Section 3.10. Generally speaking, there is no easy way to assure the validity of a finding (Anderson & Shattuck, 2012; Barab & Squire, 2004). Based on the previous discussion of DBR characteristics, validity can be assured by balancing theory and practice, which results from the participatory and iterative process (Anderson & Shattuck, 2012; Barab & Squire, 2004; Instructional Technology Ph.D. Students, 2006c). In addition, the employment of triangulation through using different resources and methods of data collection, as in other research methodologies, might assure the reliability and objectivity of the findings in DBR (Anderson & Shattuck, 2012; Barab & Squire, 2004; DBRC, 2003; Instructional Technology Ph.D. Students, 2006c; Wang & Hannafin, 2005).

3.3.4. Rationale for choosing DBR as a research approach

This research aimed to understand how to foster the thinking skills of children with LD in Saudi Arabia by implementing creative drama as a medium of teaching. It included different iterations, which were different in character, focus, and design. This required generating a theoretical framework with a clear set of principles to guide the intervention. To achieve the main goal, many research approaches can be positioned (i.e., formative evaluation, action research, quasi-experimental designs, and experimental research), all of which have similarities to DBR.

Despite the similarity between these methodologies and DBR, it was clear from the aim of this project that some of these methodologies were not suitable for guiding this project. For

example, experimental research tends to have a high degree of control over the participants and the design principle, and it is usually limited to a specific number of options (i.e., survey or semi-structured interview; Bakker & van Eerde, 2015). These particular characteristics did not help the focus of this research, which required more flexibility and reflexivity. Nevertheless, action research may have been suitable to adapt to this project. It is well known among Saudi educational researchers (e.g., EFL learners: Alfallaj, 2017; technology and higher education: Alhojailan, 2013; collaborative reading and medical students: Al-Roomy, 2013; and challenges and opportunities confronting the Saudi Arabian higher education sector: Smith & Abouammoh, 2013). Additionally, it is interventional (Anderson & Shattuck, 2012), with a less controlled environment (Bakker & van Eerde, 2015). Even though DBR and action research are practical in nature and share many philosophical underpinnings, in that DBR is applied research like action research (Anderson & Shattuck, 2012), action research is more concerned with practices. Therefore, based on this research's aims, action research was not a suitable approach to guide this project.

3.4. Research Design

Given the complex nature of DBR with all its phases, iterations and cycles (see Section 3.3), in this section, I aim to present the research design of this DBR clearly by summarising the main characteristics through diagrams and tables. However, before that, to ensure the clarity of the terminology of this DBR, I would like to relate the previous discussions (i.e., characteristics) with the reality of this current research. I mentioned before that there are three core stages for a DBR. Since this research presented as a PhD thesis, the stages are reflected as follows in Table 3.1. Moreover, some of the already-defined terms took a slightly different meaning, as shown in Table 3.2.

Table 3.1. The three core stages of this DBR

Stage	Enactment	Chapters
Preliminary stage	Literature analysis and review, it to conceptualise the research problem, and to draft the initial design principles.	2
Prototyping stage	The iterative procedure of how data collected and how the design principles revised which consists of two phases.	3
Assessment stage	The report of the theoretical and empirical contributions of this DBR.	5 & 6

Table 3.2. The meaning of phase, iteration, and cycle in this DBR

Term	Meaning
Phase	An empirical enactment that is allocated as a stage of the data collection.
Iteration	A combination of multiple steps or cycles that are collaboratively conducted with teachers.
Cycle	A series of enactments: planning conversation, implementing the creative drama session, and reflective conversation.

To explore the connections between creative drama and thinking skills, this DBR contains two different phases, both conducted in the same academic year (2016–2017). Phase One aimed to propose design principles that were revised based on practice. It involved two different iterations, in which the principles were implemented and refined based on practice within two different learning contexts. The findings of this phase provided advanced design principles to guide Phase Two. Consequently, the proposed set of design principles were iteratively tested within Phase Two. To answer the research question, the focus in this phase was to understand the relationships among all factors that might have an impact on learning thinking skills within that particular context. There was a gap between Phases One and Two, and during that time, the design principles were revised based on the empirical data of Phase One. Both phases had a similar procedure of conducting a number of cycles followed by a focus group with children with LD. The cycles had two types of conversations: planning and reflection (see Section 3.6 for more details). Both included the co-researcher (schoolteacher) in the ongoing reflection on and revision of the design principles. I used the term ‘analytical

reflection' because there was a level of analysis that allowed me as a researcher to make the changes based on a theoretical understanding along with the real-life experience in the creative drama session.

a. Phase One

Figure 3.3. An overview of Phase One

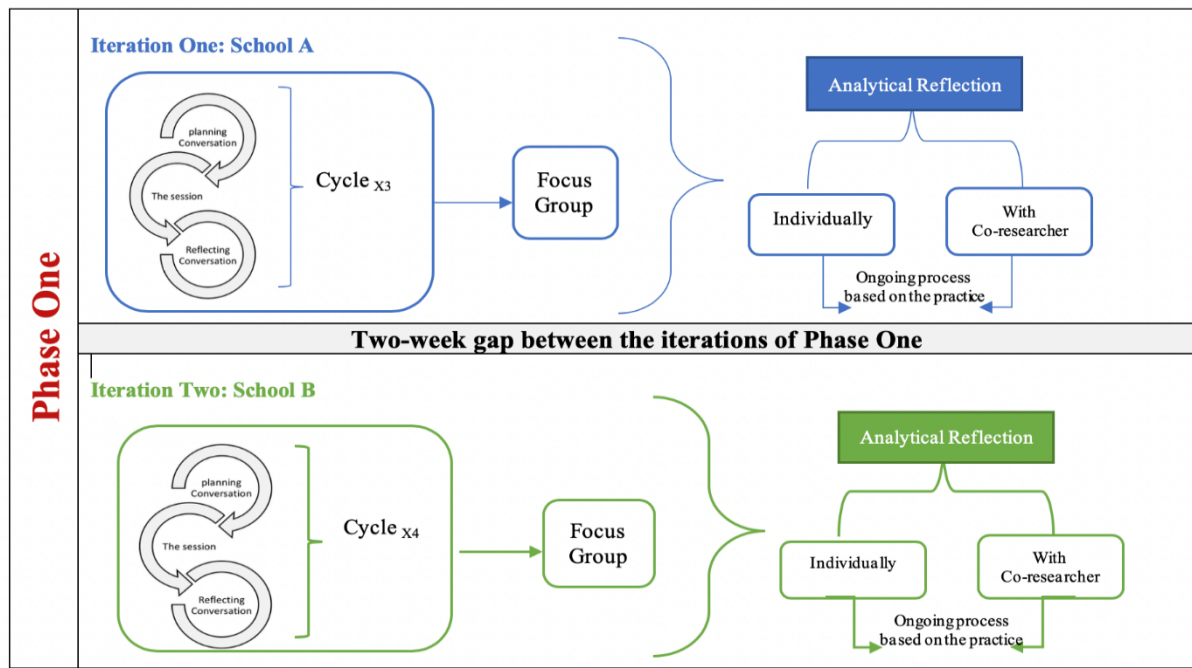


Table 3.3. Summary of Phase One

Research question	How might the thinking skills of children with LD be <i>enhanced</i> through the use of creative drama?		
Iterations	Number of cycles	Participants	Method of data collection
Iteration One	3	School A 1 teacher 6 children with LD (8–10 years old)	<ul style="list-style-type: none"> • Conversations with teacher (before and after the sessions) • Implementation of creative drama sessions • Participant observation in creative drama sessions • Focus group
Iteration Two	4	School B 1 teacher 6 children with LD (9–12 years old)	Same methods as above

The main aim of Phase One was to propose the preliminary design principles which would then guide the following phase. Phase One was a sequential combination of two different

iterations, where each iteration was a combination of several cycles (see Figure 3.3). Each iteration took place in a different mainstream primary school (School A and School B), in each of which I collaboratively worked with a teacher with SEN background as a co-researcher in developing, implementing, and reflecting upon creative drama sessions with a group of children with LD. Phase One was conducted over a total of 7 weeks with a 2-week gap between Iteration One and Iteration Two. In total, 12 children with LD between 8 and 12 years old participated in Phase One (see Table 3.3; further information about context and participants will be provided in Section 3.5).

b. Phase Two

Figure 3.4. An overview of Phase Two

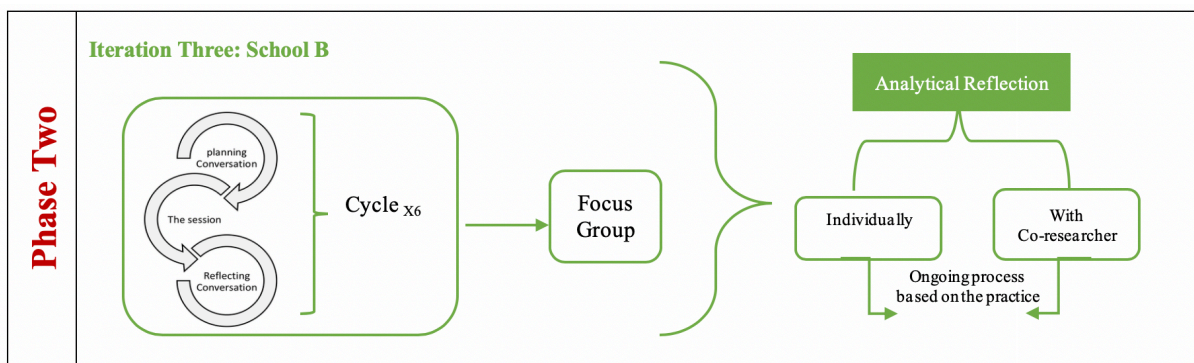


Table 3.4. Summary of Phase Two

Research question	How might the thinking skills of children with LD be <i>fostered</i> within the creative drama?		
Iterations	Number of cycles	Participants	Method used
Iteration Three	6	School B 1 teacher 6 children with LD (8–11 years old)	<ul style="list-style-type: none"> • Conversations with teacher (before/after the session) • Implementing the session • Participant observer • Focus group

Between the two phases of this DBR, there was a 5-week gap, which was allocated for conducting the preliminary analysis of Phase One in order to obtain revised set of design principles to be explored empirically in Phase Two. One of the main changes in this phase of analysis is that the terminology of the research changed, as shown in Table 3.4 (I will explain

this in detail in Section 4.8). The aim of Phase Two was to revise further the proposed principles based on practice in order to establish a final and cohesive version of the tested design principles. Phase Two had only one iteration of intervention: Iteration Three. This iteration involved six separate cycles (see Figure 3.4) and was conducted at the same school as in Phase One, Iteration Two (School B), but with a slightly different group (there was some overlap in participants between Iteration Two and Iteration Three). In total, six children with LD who were 8–11 years old participated in Phase Two (see Table 3.4; further information about context and participants will be provided in Section 3.5). The procedure of Phase Two was similar to that of Phase One apart from a slight change in the principles of this phase based on the preliminary findings of Phase One, which affected the structure of the creative drama session

3.5. General characteristics of the research context

State involvement in education began in Saudi Arabia in 1925 with the establishment of the Directorate of General Knowledge, which became the Ministry of Education in 1945, and the Ministry of Higher Education was established in 1975 (Alnesyan, 2012). However, as mentioned in Section 2.9, the first formal policy that announced the foundation and principles of the Saudi education system was published in 1970 (see Appendix 2). Most recently, in 2015, both ministries were integrated into one under the name ‘Ministry Of Education’ that controls all educational issues (Alfares, 2014). The structure of schools in the Saudi system, based on the website of the Ministry of Education, is as follows:

- **Preschool** is for children under 6 years of age and is not compulsory.
- **General education** is compulsory and free, divided into three stages: primary school, which is 6 years of schooling that the child starts at age 6; intermediate school, which consists of 3 years of study; and high school, which consists of 3 years of study.

-
- **Higher education** is not compulsory, and the undergraduate degree is free. It used to be controlled by the Ministry of Higher Education, but since 2015, both ministries have been integrated under the name of Ministry of Education.

Focusing on general education, there are two types of schools: public and private, both of which have to be based on the Islamic code and cultural values of Saudi Arabia (Alfares, 2014); thus, the school system is segregated by sex (boys' schools and girls' schools). It worth pointing out that the educational system is centralised in Saudi Arabia (Alfares, 2014). Therefore, all schools (even private) in all regions are required to follow the ministry's principles, policies, and guidelines (Alabdelwahab, 2002). Also, all schools receive the same textbooks for all subjects (except foreign languages in private schools), which are designed by the ministry (Alfares, 2014). Keeping in mind that the aim of this research is to foster thinking skills in a primary school context, the use of a predesigned textbook might limit the teachers, which could be why researchers such as Alwehaibi (2012), as discussed in Section 2.9, have called for change in regard to the teacher education programme and professional development.

The focus of this research is children identified as having LD in Saudi primary schools. Special education in Saudi education is defined as a set of programmes, plans, and strategies specifically designed to meet the special needs of children, including teaching methods, tools, equipment, and special equipment, as well as supportive services (Ministry of Education, 2015). Referring to the structure above, general education can not only be categorised as either private or public but also as mainstream or inclusive. Inclusive schools are those that have separate classes for students with LD.

Mainstream schooling could aid the process of the government policy concerning inclusion (Alharbi & Madhesh, 2017; Ministry of Education, 2015). This policy aims to teach children with special needs together with those with 'normal abilities' (Alharbi & Madhesh, 2017); it also offers additional specialist services when required (Alharbi & Madhesh, 2017). There are several programmes within mainstream schooling, and 'Learning Difficulties' is one of these.

In 2015, the Department of Learning Difficulties published a guide for practitioners who work within the mainstreaming schooling system. It consisted of 10 chapters that intensively offer information that might be needed by teachers. In my opinion, this guide is worthwhile, especially to a teacher who has a general background. To illustrate, the teacher guide has basic information such as terminology and background, as well as other advanced topics such as the process of diagnosis and the individual educational plan for a learner.

The number of schools that involve programmes for primary school students identified as having LD is 385 (Ministry of Education, 2015) out of 14,053 total primary schools across the country (The Annual Report of the Ministry of Education, 2017–2018). A more recent investigation by Alharbi and Madhesh (2017) investigated how the Saudi system supports inclusive education. They examined the policies and related legislation and concluded that there is a considerable effort regarding inclusive education. However, because the Saudi policy and legislation aim to be more consistent with international policy and human rights legislation, according to Alharbi and Madhesh (2017), there is much work to be done before inclusive education is achieved in Saudi Arabia. Alanazi's (2018) findings agree with this; she conducted a semi-experimental study that aimed to investigate the impact of an educational story on developing thinking skills among primary school students in mainstream schooling, including students with LD. Alanazi concluded that there were differences in favour of the experimental group in all fields of thinking skills. Thus, she recommended involving the students' families and establishing support centres for the families of students with learning difficulties centres to ensure their continuous education.

This section provided a general background about the current research context. To summarise, the Ministry of Education in Saudi Arabia pays attention to learners with LD, but much has to be done to offer an educational setting that provides education to all children equally. The following section will be mainly focused on the specific context of this DBR.

3.5.1. Children with LD in mainstream schooling

Even though this thesis focuses on children with LD, it is not positioned purely within the special education field of research. That is because, since the main focus is teaching and developing thinking skills through creative drama for children with LD, the focus of data gathering and analysis was more on the process and indications of fostering thinking skills. Nevertheless, it is vital to understand how these children learn within the Saudi education system and what the system has been providing for them.

In Section 1.3, I defined learning difficulties and concluded that children with LD have a slower pace of academic accomplishment than their peers, falling behind what is academically expected. LD is a cognitive delay that could also be associated with speech, language, communication, emotion, and self-esteem (Moscardini, 2010; Norwich et al., 2012). As mentioned above, the learning difficulties programme within the mainstream schools aims to support children with LD in their learning and development processes and provide them with a ‘good’ learning experience as much as possible. Therefore, in Saudi Arabia, within each school, there is a resource room that is open to supporting children with LD and led by a teacher with a special education background. The resource room is separate from the classroom, described as a ‘remedial classroom’ that provides learners with LD with customised support based on their characteristics, needs, and capacities (Ministry of Education, 2015). Although there are six conditions listed in the regulations of special education institutes and programmes by the Ministry of Education (2002) for determining students’ eligibility to join the learning difficulties programme (see conditions in original language in Appendix 3), what is important here is the diagnosis result, which is condition 5. The diagnosis procedure has four stages:

- 1) Identification, which starts by observing the behavioural and psychological aspects of the child; the parents or the classroom teacher could do this. Then, the SNE teacher studies the previous academic achievement of the child and compares it with the expected level of achievement. That means that children from year 1 are excluded

because there is no academic record that the special needs teacher could examine.

Then, after informing the parents, the child will be referred to a specialist within the special education department to obtain a diagnosis.

- 2) Diagnosis is a critical stage; the parents have to be informed and possibly they may have to accompany their child to the procedure. There are three places controlled by the Ministry of Education that can carry out the diagnosis, which depends on the child's needs, as reported by the special needs teacher.
- 3) Identifying the child with LD's needs: Based on the diagnosis outcomes, the specialist will provide a report that includes detailed description of the child's condition, the child's strengths and need areas, the educational objectives that have to be targeted, and finally, the duration of the individual plan.
- 4) Writing the report: This stage has to be done by both the specialist and the teacher to provide support for the child. It will be in the child's educational record, and the parents and school teachers (only those who will teach the child this year) will be informed.

For primary school students, the special education teacher and another teacher will work collaboratively. At the same time, the special education teacher will have an individual plan for each child, which will be carried out during the school day individually (one to one) in the resource room, with the condition that a child with LD never spends more than 50% of the school day in the resource room (Ministry of Education, 2015).

3.6. Current DBR's context and participants

Within the Saudi educational system, as mentioned above, there are some mainstream schools that have been designated and resourced by the Ministry of Education to be supportive and to have, as far as is possible, an adaptable environment that allows all learners to have a 'good' learning experience. These are not defined as 'inclusive' schools but have a special education programme that is specified to support targeted learners (e.g., learners with LD). There are 385 primary schools that include a specific programme for learners with LD

(Department of Learning Difficulties, n.d.), which in makes the number of schools limited across the country of Saudi Arabia. This study focuses on learners with LD within these types of mainstream primary schools because, they are where children identified as having LD as defined in this research (see Section 1.3) are allocated in the Saudi education system. As there are a limited number of schools in each city, in this study, the name of the city, in addition to the name of the schools, will not be mentioned in order to maintain participant confidentiality.

As a Saudi government-funded researcher, I found that the process of access to schools was straightforward in regard to bureaucratic procedures. Moreover, to ensure that the access procedure went as smoothly as possible, I chose to conduct the study in the same city where the university that funded this research (which is my workplace) is located. A letter from the Saudi Arabian Cultural Bureau in London directed to the Ministry of Education (Appendix 4) supported my need as a researcher. With this letter, in addition to the ethical approval that had been given to me by the Ethics Committee at the University of Exeter (Appendix 5), I contacted the General Directorate of Education in the targeted city via email, and, after filling in several forms (not included as an appendix for confidentiality), the Special Education Department provided me with a list of schools where I could undertake the study. The index had 62 girls-only mainstream primary schools with specialist provision for learners with LD all in this one city. The process of selecting the two schools was convenience sampling because it was non-random since the selection depended on the easy accessibility and availability due to the time limitation (Etikan, Musa, & Alkassim, 2016). I started contacting the schools' principals personally by telephone to gain their consent based on their appearance on the provided list. Due to time limitation, I contacted the Special Education Department to obtain legal access to the first three schools that gave me verbal acceptance to conduct the study at their schools; which was the desirable number. The rationale behind selecting three schools was to conduct each iteration of this DBR in a different learning environment. It is worth pointing out that one of the teachers withdrew from the research; this was to some extent anticipated as a possibility

because I am fully aware of the complexity of my study and the overload that any primary school teacher might have. However, due to circumstances, which will be explained in Section 3.12, this research was eventually held at two, rather than three, schools. The following is a detailed description of the two research schools.

School A

School A is a mainstream primary school in the city. It is an old and large girls' school. It had 645 students aged 6–12 years within the academic year 2016–2017. School A is a multicultural school in terms of nationality; the percentage of non-Saudi students (e.g., Syrian and Egyptian) was 45.7%, while the percentage of Saudis was 54.3%. Within this large school, there was only one teacher who had a special needs education (SNE) background and specialised in teaching learners with LD, Sarah (all names are pseudonyms). The number of children who had been identified as having LD was 10, across all levels/age groups.

As in all mainstream schools that support learners with LD, School A has a resource room for the children with LD who benefit from the programme. The system at this school, as with other such schools, is to develop an individual plan for each learner with LD, the aim of which is to meet that child's needs and to help him or her to maximise his or her achievement. Sarah had developed a culture for the resource room where everyone was invited to use the room, especially the children from the elementary level (years 1, 2, and 3), in order to eliminate any negative impact that might affect the children with LD. Some extracurricular activities in the school were also conducted in the resource room. Thus, the resource room within this particular school was not limited to learners with LD, and it had a different atmosphere compared to the 'norm' at other mainstream schools.

School B

School B is another mainstream primary girls' school in the same city that supports learners with LD. It had around 420 students aged 6–12 years within the academic year 2016–2017, and the number of children who were identified as having LD was 12 in total across all

levels/age groups; eight of them participated in this DBR. The building and all the facilities of School B are shared with another primary school. School B's working time was 7:00 a.m. to 11:30 a.m., when the other school started its working time. The shared facilities are a temporary solution provided by the Ministry of Education to the closure of another school in the neighbourhood. This situation limited the length of a lesson to 35 minutes instead of 45 minutes. Moreover, the extracurricular activities of each school had to be limited to the minimum. For example, School B allocated 1 day monthly (70 minutes) for any extracurricular activities, whereas School A, like any other mainstream school, had 90 minutes weekly allocated for these activities.

The culture around the resource room of School B shared some similarities with that of School A, since it was open to all students, not only to students with LD. In order to discard any negativity that might affect the children with LD, Norah, the SNE teacher at School B, had established a study partner system such that each child with LD had a study partner from the same year group, though not necessarily from the same class. It worth to point out here that, in both Schools the creative drama sessions held in the resource room.

3.6.1. Participants

This DBR participant sample of this DBR may be considered to be both a purposive and convenience sample, it is purposive sampling because I deliberately targeted children with LD and teacher with SND background. As I mentioned before selecting schools depended on the easy accessibility and availability since there is only one teacher with SNE background, I assumed that the school's principals checked their availability before permitting me, more detail will be provided later, for that it can be considered convenience sampling. It is convenience also because all children with LD in each school were approached, they all had a chance to be selected. General information is provided in Table 3.5, which summarises the participants in this DBR in the two phases.

Table 3.5. Summary of all participants in this DBR

Phases	Iterations and schools	Participants
Phases One	Iteration One (School A)	<ul style="list-style-type: none">• 1 SNE teacher (Sarah)• 6 children with LD (8–10 years old)
	Iteration Two (School B)	<ul style="list-style-type: none">• 1 SNE teacher (Norah)• 6 children with LD (9–12 years old)
Phases Two	Iteration Three (School B)	<ul style="list-style-type: none">• 1 SNE teacher (Norah)• 5 children with LD (8–11 years old)

Teachers

As mentioned before, there were two teachers: Sarah (School A) and Norah (School B). All names of teachers and children are pseudonyms to maintain anonymity and confidentiality. The process of contacting the teachers was similar in all schools. It was the second step after accessing the schools. I was introduced to the SNE teachers through each school’s principal. Before obtaining a teacher’s consent (Appendix 6), I had several conversations with her during three visits to the school. The first visit aimed to explain the project and the process of conducting the data (e.g. discuss how we will work collaboratively as a team plan each session). This was followed by a visit that focused on the notion of creative drama, the lesson plan, and how creative drama might be employed as a full or partial lesson. Finally, in the last visit, I conducted a mock creative drama session where the teacher observed (children who attended this mock session were selected by the teacher with the principal’s permission). By the end of each third visit, the teachers were asked if they wanted to participate to the project or not. Each teacher was given a ‘teacher toolkit’ that included a copy of the consent form, several publications about creative drama, a list of creative drama activities, and a list of websites that support the use of drama in primary education. Table 3.6 summarises the main characteristics of the two teachers:

Table 3.6. Summary of the main characteristics of the two teachers

Phases	Participation phase	Teacher participants
School A	Phase One	Sarah <ul style="list-style-type: none"> • SNE background • 17 years' teaching experience • Mother of an 8-year-old boy with LD
	Phase Two	Norah <ul style="list-style-type: none"> • SNE background • 10 years' teaching experience

Children

The number of children who were identified with LD was limited in both schools (10 in School A and 12 in School B). Both schools did not give me permission to contact the children and their guardians directly; this contact was through the SNE teacher. Moreover, the sample involved a number of 'typically achieving children'. There were two logical reasons behind this choice: first, to provide an inclusive setting that was similar to the regular classroom; second, to discard any form of segregation due to eliminating a specific group of children as participants. Also, the labelling system of the learners at school (e.g., gifted or slow learner) was discarded to prevent any possible harm to the participants (more details in Section 3.10).

Regarding the participants in School A, all children with LD (10 children in total) were invited to join the Creative Drama Club through Sarah's contacting their guardians; six guardians gave permission. The Creative Drama Club is the title used to represent the extracurricular time that the children joined during their participation. Because it was held in the resource room, I decided to give it a name to ensure that there was no negative impact that might affect the children during their experience (more information will be provided in Section 3.10). The 'typical achieving children' were invited by Sarah, based on the ages of the participating children with LD. She invited six children, one from each class of the recruited children with LD; only three of their guardians gave permission. All nine participating children (six with LD and three 'typically achieving') in School A were 8–10 years old. I will only

provide details for children with LD because they are the targeted group of children that this DBR focused on; more details about the recruitment of children will be discussed in Section 3.10. Table 3.7 shows the details of children with LD in School A; more information about their learning difficulties will be given later.

Table 3.7. Details of the participant children in School A

Name	Age	Year	Description of the children's difficulties according to their records
Fatimah	8 years	3	<ul style="list-style-type: none"> • Difficulties in reading and writing
Haneen	9 years	4	<ul style="list-style-type: none"> • Across-subject difficulties (e.g., math and writing)
Razan	9 years, 6 months	4	<ul style="list-style-type: none"> • Difficulties in spelling and writing
Joud	9 years	4	<ul style="list-style-type: none"> • Difficulties in reading and writing
Amal	10 years	4	<ul style="list-style-type: none"> • Difficulties in reading and writing
Lina	10 years	5	<ul style="list-style-type: none"> • Across-subject difficulties • Attention deficit hyperactivity disorder (ADHD).

School B was part of both phases of this DBR. Phase One was conducted during the first term and Phase Two was conducted during the second term of academic year 2016–2017. Thus, the total number of children identified with learning difficulties was nine at the start, then increased to 13 because more children were designated as having LD. In Phase One, all guardians of the nine children with LD were approached by the SNE teacher (Norah); six gave permission to include their children. Regarding recruiting the typical achieving children, in both phases, Norah asked each child to invite her best friend to join them in the Creative Drama Club. All 12 children in School B in Phase One were 9–12 years old. In Phase Two, the timing was an issue because the children were from the upper (Year 4,5,& 6) and the intermediate level (Year 1, 2, &3). Thus, she only approached the guardians of children with LD who were available at the same time. Six of whom gave permission to include their children. As in Phase One, the children were asked to invite their best friends to participate with them in the Creative Drama Club. This made the sample across iterations in this DBR equal in terms of number, with six children with LD in each iteration (i.e., 12 children in total in each iteration). There was a 5-week gap between Phase One and Phase Two, for which the consent of the guardians

had to be reobtained. Four of the original six were re-invited. Table 3.8 shows the details of children with LD in School B.

I was not allowed to access the children’s records at both schools, as they were very strict about children’s confidentiality, Therefore, I used the information, as shown in Tables 3.6 and 3.7, provided to me by the SNE teachers at both schools.

Table 3.8. Details of the participant children in School B

Iteration Two	Name	Age	Year	Description of the children’s difficulties according to the SNE teacher
	Nouf	8 years	3	<ul style="list-style-type: none"> • Difficulties in reading
	Jana	9 years	3	<ul style="list-style-type: none"> • Slow learner and short attention span
	Maryam	10 years	5	<ul style="list-style-type: none"> • Difficulties across subjects (i.e., math and grammar) • Slow learner
	Reem	11 years	5	<ul style="list-style-type: none"> • Difficulties in writing and spelling
	Lama	11 years 6 months	6	<ul style="list-style-type: none"> • Difficulties in reading
	Hannah	12 years	6	<ul style="list-style-type: none"> • Difficulties in reading and writing
Iteration Three				
Name	Age	Year	Description of the children’s difficulties according to the SNE teacher	
Nouf	Same information as above			
Jana				
Maryam				
Hind	7 years and 6 months	2	<ul style="list-style-type: none"> • Attention Deficit Hyperactivity Disorder (ADHD). • Difficulties in reading and writing 	
Sana	7 years and 10 months	2	<ul style="list-style-type: none"> • Difficulties in reading 	

3.7. Data collection methods

This DBR involved the collection and analysis of qualitative data to explore the research question. There were three different data collection methods, which will each be described and discussed: conversations, participant observation, and focus groups. In addition to these three methods, there is my Ph.D. journal, which is not a direct source of data but includes all my notes and memos and the analytical reflection (which is presented in Figure 3.5). Moreover, as shown in Table 3.3, the number of implemented methods was the same between two phases of this DBR. There was a slight difference regarding the focus of the focus groups between Phase

One and Phase Two resulting from the difference between the phases' aims; further details will be provided in Section 3.7.3. This section discusses the data collection methods used in this research project and the rationales behind using them.

3.7.1. Conversations

Conversation is one dimension of any social interaction. In this DBR, conversation refers to any dialogic interaction that occurred between me and the teacher as coresearcher regarding planning the session or reflecting on it. Thus, there are two types of conversation in this project: planning conversations and reflecting conversations; they were the first and the last step of each cycle within each iteration (see Figure 3.5).

This design research draws on the constructivist paradigm of epistemology, wherein the construction of knowledge is regarded as an active process (Willig, 2013). An interview is a dynamic process involving an interviewer and interviewee(s) who personally exchange information (Ruane, 2005). Moreover, something is an interview, not an everyday dialogue (Ruane, 2005, p. 149), because it has a clear purpose. Also, Ruane (2005) and Bryman (2016) mentioned that the interview has to be structured to aid researchers in achieving their goals. I agree that having a structured interview is one way to limit the challenges faced by a researcher, though it is not the only way. There are three types of interviews based on their structure: standardised, semi-structured, and unstructured. All three types involve asking questions of research participants, which for me was the main problem of using the interview as a method. It not only requires specific social skills, but in this DBR, the questions limit the interview as a data collection method for two reasons: First, the interaction between the interviewer and the interviewees, in all types, will be only heard and not interactive communicating. Second, the communication will depend on asking the 'right' question to get the 'right' information.

In contrast, even though any interview conversations in this DBR always had a primary goal (either planning or reflection), they were not dominated by me as the interviewer. In other words, both the teacher and I posed questions, had notes, and added ideas related to the

discussed episode. More importantly to this DBR, involving structured questions limits the researcher's chance to go beyond his or her expectations while preparing for the interview. Thus, conversation as a data collection method in this DBR can be defined as a purposeful dialogue that collaboratively aims to discuss and explore all phenomena to stimulate the children's thinking and to revise the research design.

In this DBR, I used two different types of conversation as data collection methods. The first was the planning conversation, the first step of each cycle wherein the teacher and I planned the creative drama session. Here, the focus was to plan and share expertise to design the session collaboratively. The second form of conversation was the reflecting conversation; it was the last step of each cycle. It refers to the participatory process of discussion and reflection between the teacher and me upon the implemented session about the research question and the design principles. In this step, we compared notes, thoughts, and ideas of how we might refine the design principles to provoke the children's thinking.

3.7.2. Participant observation

As I explained earlier, participation and collaboration are among the main characteristics of any DBR. Therefore, to take part in the action and to generate insight into creative drama activities by actively engaging with participants (McCurdy & Uldam, 2014), participant observation was utilised. Someone might argue that using conversations as data collection methods (Section 3.7.1) also indicated that, as a researcher, I was part of the action. I agree with that, but both types of conversation implemented in this DBR were only with the teacher and devoted to modifying the design principles. On the other hand, I think observing the participants widened my opportunity to understand the context; it allowed me to engage with the children, to be part of the communication process, and to get involved in the active process of thinking within creative drama activities while assisting the teacher. Even though participant observation is 'not an impartial window into the motivations and rationales' of participants (McCurdy & Uldam, 2014, p. 41), it is affected by researchers' assumptions and interpretations

of what we perceive and observe as researchers. Accordingly, due to social research's nature and to ensure the quality of the data, participant observations are 'rarely, if ever', the only method used in a study (Musante & DeWalt, 2010, p. 3) such as this DBR.

Since the focus of this design research was fostering the thinking skills of children with LD, participant observation as a data collection technique provided the bulk of the data of this thesis because it consisted of iterative and direct interactions with the children during the creative drama sessions. During the planning conversation of each cycle across phases, the teacher and I decided our roles within each activity of the planned creative drama session. Although most of the time I acted as an assistant for the teacher, these particular methods not only helped me to understand the research context and what happened in each episode but allowed me to take part in this context, to engage and partner with participants in the action. It is worth pointing out that I expected to observe some behaviours that may indicate the practice of the targeted thinking skills.

However, I did not expect to be part of a culture established within the creative drama, which I think the use of participant observation helped to build. This is because it not only developed a rapport between me and the participants (both teacher and children) as an outsider (McCurdy & Uldam, 2014; Musante & DeWalt, 2010), but it enabled us (children, teacher, and me) as a group to experience the feeling of belonging.

3.7.3. Focus group

A focus group is an in-depth interview performed in a group (Cohen, Manion, & Morrison, 2007; Freitas, Oliveira, Jenkins, & Popjoy, 1998), where the direction of dialogue is not back and forth between the interviewer and interviewees (Cohen, Manion, & Morrison, 2007). Instead, the interaction within the group relies on the moderator (usually the researcher), who uses the group's interactions collectively to gain information regarding a particular topic (Hyman & Sierra, 2016; Williams & Katz, 2001). Cohen, Manion, and Morrison (2007) listed 12 points regarding the advantages of a focus group, one of which was gathering feedback from

the participants regarding a particular topic or previous experience. Moreover, Cohen, Manion, & Morrison (2007) pointed out that the focus group or group interview might be useful for triangulating the data within research. In particular, these two points were why I decided to use a focus group as the last step of each iteration in this research design.

Although a focus group helps research to explore and grasp the participants' experiences, values, perceptions, and opinions (Williams & Katz, 2001), there are several challenges in running and conducting focus groups (Cohen, Manion, & Morrison, 2007; Williams & Katz, 2001). First are the size and the number of focus groups within a single study: According to Cohen, Manion, and Morrison (2007), one group is not sufficient, as the researcher will not be able to differentiate the unique behaviour of the group participants. Furthermore, the size of the group varies between researchers (e.g., four to 12, according to Cohen, Manion, and Morrison, 2007, or six to 10, according to Hyman & Sierra, 2016); however, it has to be manageable (Hyman & Sierra, 2016). In this DBR, the use of the focus group was to help me to explore the children with LD's feelings, perceptions, and opinions about their experiences with the Creative Drama Club. Further, the focus groups were limited only to children with LD, and the teachers were excluded in all iterations. Regarding the non-focus 'typically achieving' children (see Section 3.8), for ethical considerations, I included them as part of each focus group except Iteration One. That was because the focus group took place during an extracurricular activity that was occurring in the resource-room of School A, which was limited to the children with LD.

Within this research project, the implementation of focus groups was slightly different from being only a guided group discussion. In Iteration One, I used art craft activity during the discussion, aiming to create a comfortable environment that allowed me to obtain an informal conversation and the children to have fun. Despite that, the use of the craft activity was one of the challenges that I faced while collecting the data; further information will be provided in Section 3.12. Based on this experience, the focus groups of Iterations Two and Three were

planned as a creative drama session in which I implemented (with modification) ‘Philosophy for Children’ (see Chapter 2) as techniques for introducing the topics of discussion.

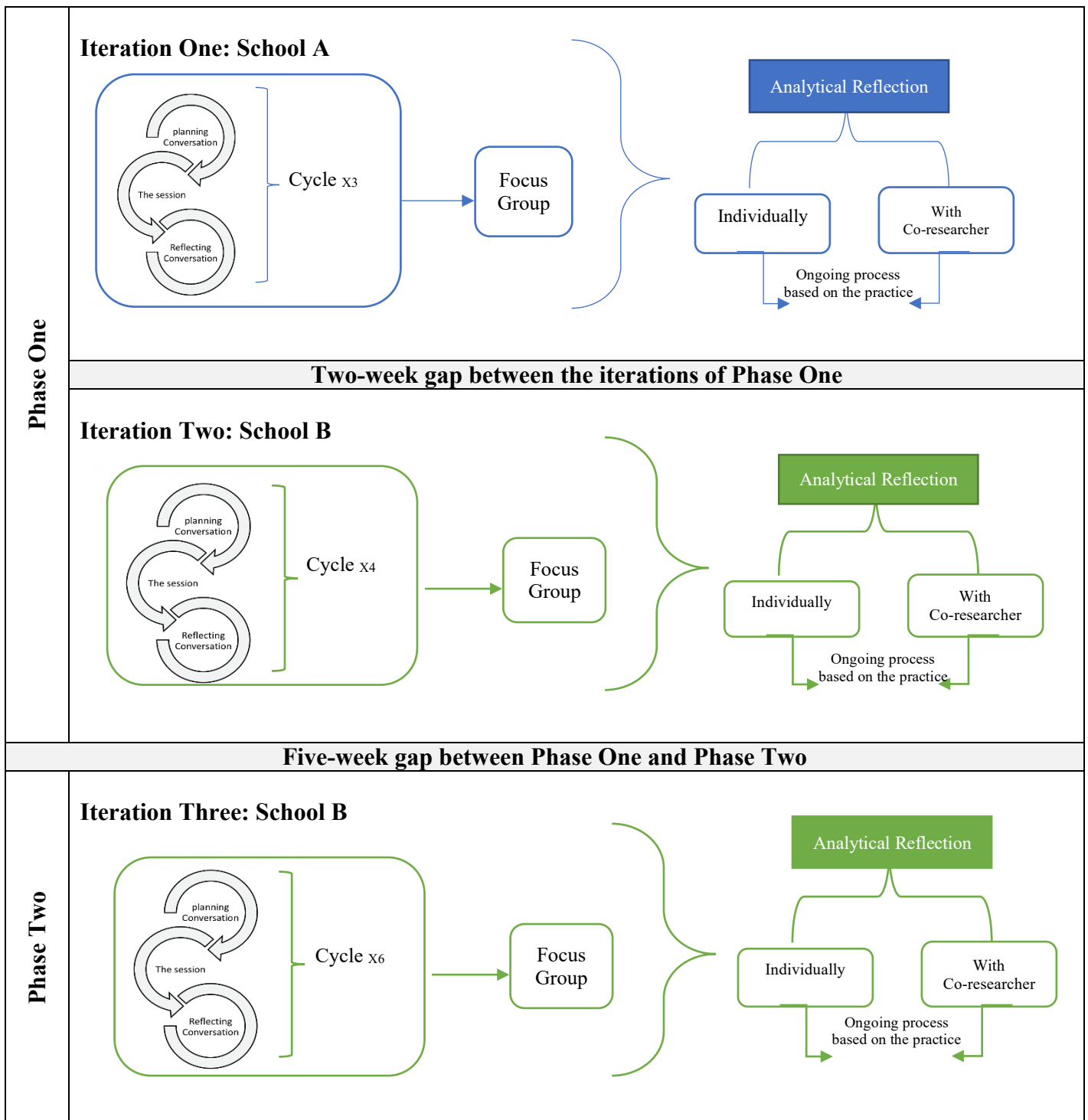
3.7.4. Recording the data / PhD Journal

A common feature among the three discussed data collection techniques as enacted in this study is that they all adopted an informal conversational approach, even the participant observation due to the nature of creative drama session, or a ‘conversation with a purpose’ (Berg, 2009, p. 89), among all participants in this DBR. All conversations and creative drama sessions were conducted in Arabic (the participants’ native language), they all were audio recorded using a recording device and not transcribed unless they were used as evidence in the findings chapters.

I used my Ph.D. journal as a primary backup for the data against any recording failure. Audio recording was used to record the creative drama sessions, conversations (reflecting and planning), and focus groups only in the resource room to avoid recording children who were not part of the research. Photos of the children’s drawings, their handwriting, and some of the activities were taken only to be used as an example that shows a glimpse of the Creative Drama club (in Appendix 7). Also, the Ph.D. journal was used for handwriting field notes that record in detail the children’s physical interactions during creative drama activities and reflected my observations and thoughts in each step of each cycle. In addition, I used my Ph.D. journal to record any relevant encounters with children while waiting for the group to be completed before starting the creative drama session. Finally, the Ph.D. journal is not a source of data , beside the previous mentioned purposes, it was used to record all my analytical reflections shared with the teachers in conversations (planning or reflecting).

3.8. Procedure

Figure 3.5. An overview of data collection and analysis procedure



In this section, the practical procedure of the data collection of this design-based research will be clarified by illustrating the main procedures. Step-by-step explanations of the procedures of data collection within each cycle will be provided through the following Chapter.

As with most DBR, this study had three stages (see Table 3.1). This iterative procedure included two different phases with three iterations. As presented in Figure 3.5, the cycles varied in number between iterations, but it shared the same procedure of data collection. Another difference is that, even though all iterations were designed to answer the research question, each one was allocated in a particular phase of the research design to serve its aim.

Phase One aimed to develop design principles developed based on theory and practice; it consisted of Iteration One and Iteration Two. Starting with Iteration One, the aim was to pilot the design principles in a real-life learning environment in order to refine them; there were three cycles in this phase. The process of this phase started, as mentioned earlier, by visiting School A, obtaining the teacher's (Sarah's) consent, and explaining to her what the design principles were and how they might be implemented. Then, collaboratively, the themes of each cycle were suggested based on Sarah's experience as a primary school teacher. By 'theme' here I mean the learning focus, such as healthy food or farm animals. Also, it was important to arrange the resource room in a way that allowed the children to move freely and use the space. The conversations (planning and reflection) took around 45 to 50 minutes each. The creative drama sessions were 70 minutes each session, and the focus group took around 35 minutes. There were three different cycles, the practical procedures of which will be detailed in Chapter 4. Each cycle was implemented in a separate week, since the planning conversation and reflecting conversation needed to be performed over two different days in each cycle. After collecting the data from the cycles, I carried out the focus group. I led this focus group with the children, and the teacher was only there to observe for ethical considerations (see Section 3.11).

There was a 2-week gap, as shown in Figure 3.5, when I started the process of refining the design principles. This process began by listening to audio data of the focus group audio data first, followed by the audio data of the observation each cycle chronologically. This gap was an initial phase of the analysis (more information will be provided in Section 3.9), and the refined design principles were implemented in Iteration Two. This iteration aimed to test the principles to revise them based on a real learning practice. As in Iteration One, after consent was obtained, the themes were established collaboratively with the teacher (Norah). The process of collecting the data using conversations (planning and reflection) took around 30 to 45 minutes each. Collecting data from the creative drama session through participant observation took 50 minutes each session, and the focus group took around 50 minutes. In this iteration, there were four cycles implemented in four different weeks, the practical procedure of which will be detailed in Chapter 4. This was followed by a focus group; in this iteration, the focus group was designed as a usual creative drama session, which I led.

Before conducting Phase Two, there was a 5-week gap (see Figure 3.5), during which a first round of analysis was undertaken; the aim was to make sense of the data and develop design principles based on the initial findings. Phase Two involved only one iteration. Even though Iteration Three was implemented in the same school as Iteration Two, consent had to be renewed by all (i.e., teachers, guardians, and the children) for ethical reasons. The duration of each data collection period within a cycle and the focus group in this iteration were the same as in previous one. There were six different cycles over 6 weeks, the practical procedure of which will be detailed in Chapter 4, followed by a focus group. Finally, Figure 3.5 shows that there were two rounds of analytical reflection, which will be explained in the following section.

3.9. Selecting, preparing, and translating the data

3.9.1. Selecting the data for analysis

Because of the complex and intertwined relationships among participants (teacher, children with LD, and myself) in this DBR, it was hard to decide which sort of data would be appropriate

for the primary research question. However, the main focus of this study was fostering the thinking skills of the children with LD, so unsurprisingly, the most relevant data were those from the creative drama sessions and the focus groups. Given the nature of this study, even though the aim was not to develop an in-depth set of design principles, it was impossible to ignore the data from the planning conversations and the reflecting conversations. Both would enable me to study the changes in children’s behaviour and understand their learning from both teachers’ perspectives, especially about the design principles. It was therefore necessary to combine an analysis of the children with LD’s interactions during creative drama sessions, their talk during the focus groups, and the teachers’ discourses during conversations.

Table 3.9. The data analysis procedure

During the 5-week gap between Phase One and Phase Two	
1st round of analysis	
	<p>After Phase Two</p> <ul style="list-style-type: none"> • Same as above
2nd round of analysis	
3rd round of analysis	

The process of data analysis consisted of three different rounds (see Table 3.9): the first round was exploratory, during which I listened to all the recorded data and inductively generated codes. This round of analysis took place twice within this study: during the 5-week

gap between Phase One and Phase Two and at the end of Phase Two. The second round was more in-depth. I started by focusing on the data from the focus group (using discourse analysis), followed by the creative drama sessions (using thematic analysis), then the teachers' conversations (using thematic analysis). After coding the data in this round, I looked into the relationships between the data from the two methods of analysis to further understand what these codes meant and how they might be categorised. After obtaining a set of categories, I started the third round, which aimed to advance the relationships between the generated categories and define this relationship through clustering them into themes. In this round, I only focused on creative drama sessions (observations) and focus groups. In the following chapter of this thesis (Chapter 4), the examples provided from the discourses with teachers are limited.

3.9.2. Preparing and translating the data for analysis

All data were audio recorded and stored in an NVivo project. Moreover, I analysed the data in their original form (audio) and language (Arabic); transcription and translation were limited to the data used as evidence within the findings chapter (Chapter 4). Transcription is time- and resource-consuming (Bryman, 2016; Loubere, 2017); on the other hand, an audio file, in Nvivo software, can be annotated, marked, coded, and even included in a memo. Although some researchers think that to systematically analyse and report on the data, transcription is the first, if not a crucial, step in preparing the data for analysis (Bailey, 2008; Kowal, & O'Connell, 2014; Loubere, 2017), transcription can be problematic (McLellan, MacQueen, & Neidig, 2003). The challenge is to produce an accurate and readable transcription that at the same time explicitly reflects the constructed nature of the talk (Duff & Roberts, 1997). However, given the intertwining connection between analysis procedures, traditional methods of preparing data transcription did not work for me for two reasons: first, because transcribing separates the discourses into chronological, linear, and plain extracts, and second, because it concerns

providing a systematic organisation of data, which might limit the understanding of the connections among the data.

The data that were collected for this DBR were recorded in Saudi primary schools, and all the participants spoke Arabic. As with transcription, it would be impractical and time-consuming to translate all the data into English. Correspondingly, I only translated the extracts presented but analysed the original Arabic material. Translation of data is challenging because it involves modifications and subtle shifts in meaning. Since culture plays a major part in translation (Kremen, Williams & Thorp, 2002), and due to the cultural differences between Arabic and English speakers, it is impossible to prevent these significant changes, since a term has to be translated in a way that maintains the original sense and meaning.

Nevertheless, I have chosen to present the English versions of the extracts as evidence, while the Arabic versions (as spoken not a classic Arabic) can be found in Appendix 8. The translation process has implications for the quality of the data, which is why I have consulted native speakers of English in cases in which I wasn't sure of the meaning. Moreover, to obtain as close as possible a translation, I shared both the English and Arabic versions of extracts with a colleague who is studying the English language as a major and is a native Arabic speaker.

3.10. Data analysis

3.10.1. Thematic and sociocultural discourse analysis

Like data collection methods, analysis needed to be rooted within the sociocultural perspective. Also, it had to be flexible to address the issues that I wanted to take into account. I used two analysis approaches that framed the initial basis of my analyses. The first approach was thematic analysis, which can be characterised as the foundation of qualitative analyses (Braun & Clark, 2006), especially with regard to asking a 'how' question with purely qualitative data, and the considerations of collaboration, joint meaning-making, and the children with LD's talk within and about the creative drama activities. It seemed to me that thematic analyses would be an appropriate approach to be considered as the main analysis

method. Even though qualitative data analysis is a complex phase of research (Nowell, Norris, White, & Moules, 2017), in thematic analysis, the researcher provides a ‘precise, consistent, and exhaustive’ procedure (Nowell et al., 2017, p. 1) that is flexible and can be modified continuously (Braun & Clarke, 2006). With regard to the research sub-questions and the research design, as my main aim was to gather enough data to understand the relationships between the fostering of thinking skills and children with LD’s participation in creative drama. The analytical focus thus would be on the discourses and social interactions of children with LD; therefore, I used discourse analysis as a tertiary analysis method (Gee & Green, 1998). Gee and Green (1998) argued that discourse analyses facilitate the researcher’s understanding of the construction of the educational process and practice, and the learners stand (e.g., resist or fail) within this process. For that matter, discourse analysis was used for analysis of focus group discourse to study what children with LD counted as relevant thoughts, ideas, concepts, or opinions within and across the creative drama sessions.

The tertiary method of analysis was sociocultural discourse analysis. It was proposed by Neil Mercer in 2004 as a framework that studies the functions of a language for the pursuit of joint intellectual activity. According to Mercer (2004), it is not one specific method but refers to a wide range of analytical techniques for both qualitative and quantitative data inquiry that can be applied to analyse data in a social context. Sociocultural discourse analysis ‘highlights the historical, contextualised and purposeful nature’ of learning context (i.e., classroom) talk (Mercer, Dawes, & KleineStaarman, 2009, p. 356). According to Mercer (2004), sociocultural discourse analysis has its own characteristics, but at the same time, it has been influenced by several disciplines. It is driven by the linguistic discourse analysis, the ethnographic perspective, and conversational analysis. However, it is concerned with analysing talk as a social form of thinking (Mercer, 2004; KleineStaarman, 2009), as well as the outcomes of the learners’ development and their learning outcomes (Mercer, 2004). Within social research, the choice of particular analysis methods is often foregrounded based on the theoretical perspective

and the research questions. In this thesis, I have taken these two methods into account with respect to the argument that an analytical methodology can be judged only by how well it is able to both address the research problem and appropriately represent the theoretical perspective (Mercer, 2004). The next section will explain the practical procedure of data analysis and how these two methods worked together in the process.

3.10.2. Analysis procedure

In this thesis, the processes of both the data collection and its analysis were driven by the ethnographic perspective, in which the analysis does not consist of linear steps (Rapley, 2011) and often begins at the same time as the data collection process (Silverman, 2013). In this section, I will explain the general steps by which I analysed the data drawn from all iterations (first round of analysis in Table 3.9); then, I will explain the differences in analysis between the focus group compared with data from participant observations or conversations (second and third rounds of analysis in Table 3.9).

As mentioned above, data analysis began with the first cycle of Iteration One. Organising and reflecting on my conversations with the teacher, as well as my observations of and participation with children in creative drama activities and assisting the teacher in leading the session, facilitated the generation of preliminary codes, categories, and themes to be used in the final stage of analysis (Grbich, 2012; Rapley, 2011; Silverman, 2013). There were three key rounds in data analysis. The first round involved three steps/levels of analysis: (1) the ongoing process of reflective analysis initiated by the nature of DBR. (2) During the 5-week gap between the two phases of this design research, I engaged with the data by reading my Ph.D. journal and listening and re-listening to the audio recordings. Even though the aim of analysis at this time was to revise the design principles, I wrote memos of my thoughts, ideas, and possible categories or concepts. (3) Finally, I immersed myself in the data, listening to all audio recordings, reading and annotating my Ph.D. journal, and highlighting all the possible concepts, phrases, and codes that emerged from the data as a whole.

In paragraph 3.9.2, I have explained the procedure for preparing the data for analysis. The use of NVivo was necessary to make the data accessible to being coded and annotated in their audio versions. NVivo is computer-assisted qualitative data analysis software (CAQDAS) that enables qualitative analysis of different versions of data (e.g., pictures, text, and videos). Although this software does not offer standard analytical procedure, it provides multiple ways of storing, organising, and structuring the data in a way that helps the researcher to interpret the data and make sense of them. On a weekly basis, I imported the data into a project in NVivo after finishing each cycle. While preparing throughout the cycles, I annotated interesting codes, or ‘nodes’, as they are called in NVivo, based on the design principles and the main research question. In addition to the audio files, I imported a descriptive note on the whole cycle as a backup if there was any problem with the audio recording (Appendix 9 shows a screenshot of the backup descriptive note in NVivo).

After the first round, some codes developed and emerged, while others became irrelevant. The second round of the analysis started by analysing the data from the focus group, followed by the data from other sources. The aim behind that was to increase the transparency of the data through investigating the children’s reflections, thoughts, and perspectives on their experiences in the Creative Drama Club, in comparison to the initial coding scheme that developed from the first round and what the teacher and I commented and viewed during our reflection and planning conversations. Moreover, starting this round with the data from the focus group, in particular, enabled me to categorise themes and concepts derived from the children’s discourse. This step, in particular, helped me to understand how each key concept of the findings developed and was constructed within the process of data gathering and analysis (as will be presented in Chapter 4).

The third round of data analysis involved shifting to a thematic analysis approach, in which I dealt with the data as a whole and organised the data congruence with categories, concepts, and themes. During this round, categories and themes were never based on the relevant

literature; they emerged purely from the context of the research questions (both main and sub). Despite being outlined here as separate round, the second and third rounds were not discrete steps but an iterative process. This iterative process required continuous review, amendment, reflections, discussions, and refining of codes, categories, and themes that had been established and used and the connections between them (Rapley, 2011).

During this round of analysis, I created a separated memo called ‘Theme’ for each theme in my NVivo research project. Each theme was filed according to its categories and code words/phrases. Data segments (from audio or journal) relating to each theme were linked to its theme memo. Once the data from the original audio were coded, I used a hierarchy chart of nodes to visualise the codes that were identified. The next step was returning to the data to identify quotes in the data to support the codes. To do that, I not only used the theme memo but also compared each audio recording with the created nodes to decide the most representative quote. This technique enabled me to identify the main themes that represented essential ideas concerning the main research question. With a central focus on fostering thinking skills among children with LD in this design research, explanations and theories were supported by the participant discourses, teacher conversations, episodes of participant observations, and reflective analysis with the teachers and myself in my journal. Findings of this DBR presented in Chapter 4 of this thesis.

3.11. Ethical considerations

Working with children with LD and recording all of their conversations and interactions raised a considerable number of ethical issues. As a student at the University of Exeter, the first step, as I mentioned in Section 3.6, was to get ethical approval from the ethics committee, at which point I explained in detail all aspects of my research (Appendix 5). This approval was used in contacting the Ministry of Education in Saudi Arabia to get permission to contact the schools. According to the British Educational Research Association (BERA), a researcher must obtain permission from the participants to carry out the research and provide the potential

participants with information about the study (BERA, 2018). Therefore, for the data collection, written consent and a leaflet were provided for all participants in this research. In this DBR, there were different consent forms and leaflet was only for parents' of children with LD participants, for their confidently Also, regarding the recording of the data, due to both the rules of the Ministry of Education in Saudi and cultural barriers I was not able to use video as a data collection method, even though it would have provided me with a fuller picture of the context (e.g. multi-modality and embodied cognition) and enhanced my opportunity to understand the learning context. Rather, all conversations and creative drama sessions were audio-recorded. All audio recordings were stored only on my personal computer in an NVivo project that was protected with a password.

Starting with the children, the focus of this research design was the children with LD. Keeping in mind the complexity of human dimensions within a classroom context (Konza, 2012), it was impossible to approach all children in a classroom for the following reasons: First, which was anticipated before conducting the research, the number of children with LD was fewer than 15 in each of the potential schools, with a variety of ages. Second, Creative Drama Club was held as an extracurricular during the time that was usually allocated for extracurricular activities, which meant that the children regularly were not with their formal classmates. Thus, to avoid harming the children, and to create a setting as close as possible to the usual for an extra-curricular activity, both 'typical achiever' children and those identified with LD were approached to participate. For permission for participation and the collection of audio material, written consent forms and leaflets had to be provided to the parents or guardians. For the confidentiality of the children identified with LD and out of respect for them and their legal guardians, I offered two different type of form; Appendix 10 shows the consent form and Appendix 11 show leaflets that targeted the parents or guardians of children with LD, and Appendix 12 shows the one for the consent form of parents or guardians of non-focused children. In addition to the parental consent, I considered it essential that the children

themselves were also informed about the project and the reasons for recording their actions and to get their consent. Therefore, at the beginning of each iteration, and after getting the legal guardians' consent, I explained to the children briefly what the Creative Drama Club would be about and why I was recording them. I developed a story that included all the information about the research project and how they could help me to accomplish my mission, and at the end of the story, they were asked to give consent to be part of this project. Because of the differences in age across participants, I offered two forms: Appendix 13 was for children from the intermediate level (Years 2 and 3) and Appendix 14 for children from the upper level (Years 4, 5, and 6)

Regarding working with the teachers, both consent form and leaflets were provided to teachers (Appendix 6). In this DBR, I had to work with teachers as co-researchers rather than research subjects. This idea initiated from the notion of DBR as a participatory research approach (see Section 3.3), which implies a closer relationship between the researcher and the teacher in whose classroom the study is conducted (Mercer, 1996). In this research project, the creative drama plan and its activities were developed collaboratively with the teacher, according to the design principles, the themes, and the children with LD's abilities. I also listened to the audio of the creative drama sessions, discussed, and shared all my reflective notes with the teacher in each iteration. Moreover, discussions with teachers were never limited to the planning conversation or the reflecting conversations: We had several informal discussions about what they would like to achieve in terms of children with LD's learning and what I aimed for in relation to the research objectives. It is worth pointing out that, in Iteration Three, Norah became more involved as a coresearcher; she became more aware of the design principles and got involved in the process of refining the principles. It has to be pointed out that the target of this DBR was not the teachers or to observe their classrooms to describe their experiences or describe a natural incidence of interaction with creative drama, but rather to investigate the nature of the dialogue that takes place within the creative drama. Additionally,

it was an intervention study; the ultimate aim was to foster thinking skills among children with LD.

3.12. The research rigour

‘Research rigour’ includes the notions of reliability and validity (Theobald et al., 2015), on which the quality of research can be judged. Rigour refers to ‘the quality of being thorough and accurate’ (Cypress, 2017, p. 254), and the research’s rigour is the extent to which others understand how the researcher reached the reported findings (Theobald et al., 2015). The issues of reliability and validity are essential in any qualitative research study, since the objectivity and credibility of any social scientific research are founded in them (Peräkylä, 2004, 2016). Design-based research, like any other empirical research, faces many challenges that might affect the rigour of its findings (DBRC, 2003; Plomp, 2007; Wang & Hannafin, 2005); thus, the researcher has to make sure that the findings meet an acceptable standard (Alghamdi & Li, 2013). Since the literature views DBR as empirical research, then to maintain rigour in design research, a researcher can adapt any evaluated principles. For example, Plomp (2007) suggested employing Shavelson and Towne’s (2002) principles for scientific inquiry, which consist of a list of six principles of inquiry to guide all scientific research in education. In this thesis, besides explaining how the notion of DBR elevated the quality of the data, I will deploy Klein and Myer’s (1999) set of seven principles (see Appendix 15) that refer to both the reliability and the validity of data.

3.12.1. Reliability in design-based research

Reliability is based on ‘consistency and care’ in the employment of the research process (e.g., analysis and findings) (Cypress, 2017, p. 256). It includes the transparency of the representation and the analysis of the data (Peräkylä, 2004), and whether that representation is consistently established. It is to be noted that some of Klein and Myers’s (1999) principles can be linked to some of the fundamental characteristics of DBR. For example, Principles 1 and 3 refer to the reliability of data collection; meanwhile, both principles refer to the fundamental

characteristics of any design research: iterations and interactions. Within my explanation, I will mention the discussed principles in brackets.

In this DBR, there were three different methods of data collection (i.e., conversations, participant observations, and focus groups), and all were used across iterations. Moreover, even though the data from Iteration One were used in this thesis, as I mentioned before, this iteration was enacted as a pilot not only for the design principles but also for the data collection methods. For example, after Iteration One, I excluded the use of a craft during the focus group because from experience, I realised that it shifted the children with LD's attention from the discussion. In fact, the iterative notion of DBR provided me with an ongoing process of changes and amendments regarding the process of data collection. According to Anderson & Shattuck (2012), DBR is like 'research through mistakes' (p. 17) (Principle 1). Furthermore, qualitative data methods often involve the researcher as part of the reliability of the used methods (Alqallaf, 2015). In addition, DBR requires the researcher to work collaboratively with practitioners in a way that decreases the possibility of affected behaviour and strengthens the reliability of the three methods of collection (Principles 3 and 7). Within each cycle, the teacher and I shared our critical reflection on the interactions of the creative drama session within that cycle. Also, it is worth pointing out that I started the data collection after a year of reading about the thinking skills of children with LD and the use of creative drama (Principle 2). This reading helped me to develop an understanding that guided my participation in this DBR.

Concerning data analysis, transparency is a key element to ensure the reliability of the data. As mentioned above, the sessions were collaboratively planned and reflected upon, which means that the findings were built upon multiple perspectives (Principle 6). And to check all possible interpretations of the creative drama situations, I started the second round of the analysis with the focus group (see Section 3.10) in order to compare the children's perspectives inside the creative drama session with the emerged codes and categories from the first round of analyses. Finally, positioning data examples (i.e., extracts) within the context from which

they emerged and recognising the researcher's questions and the discussion that followed contributed to the reliability and validity of these findings (Silverman, 2013). Data extracts also served to illustrate, substantiate, and provide understanding (Patton, 2002) of children's perspectives in the context of the social setting (Principles 5 & 6).

3.12.2. Validity in design-based research

The validity of research mainly concerns the interpretation of the data (Maxwell, 2016). Since reliability is the consistency of gathering the data, validity cannot be separated from reliability. The validity of data can be achieved in several ways; triangulation is one that is commonly used in social science (Cohen et al., 2007). However, drawing upon the nature of DBR, one of the strengths of design-based research is that it occurs iteratively in a real context. Also, it results from a design developed based on multiple perspectives and able to meet the practitioners' needs (Wang & Hannafin, 2005).

Referring back to Klein and Myers' (1999) criteria, to reach an acceptable level of triangulation, three different methods of data collection were used in this research project. While each data collection method has its limitations, both the use of other methods and the process of DBR helped me cover these limitations. Also, providing an intensive description, forming the bedrock of all qualitative reporting (Patton, 2002), of each cycle within each iteration and a broad description of the findings of each iteration facilitated the understanding of the interpretation, which helps the reader to experience the whole process (Principles 3 & 5).

Regarding the coding process, I included multiple extracts within the presentation of the finding as original data (in both languages) for the reader. The use of discourse analysis in the second round of analysis and the use of the children's vocabulary to code was a way to enhance the validity of interpretations. Within qualitative research, it is essential that the researcher provides a clear explanation of the research methodology and the analytical procedure (Denzin & Lincoln, 2011). Denzin and Lincoln (2011) argued that presenting the data and their

interpretation to colleagues in conference or seminars is a way of enhancing the validity of the data. Thus, I showed the data several times through presenting at a postgraduate conference of the Graduate School of Education at University of Exeter (2017, 2018) and presenting in European Association for Practitioner Research on Improving Learning (EAPRIL, 2018) (Principles 5 & 6).

In Section 3.7.4, I mentioned the Ph.D. journal as a process of reflection that enabled me to have a cohesive understanding that linked my observation of the creative drama sessions and my notes from my conversations with the teachers. In fact, having a reflexive approach illuminates one's subjectivity (Breathnach, 2017) and is a crucial way to ensure the research's rigour (Toma, 2011). Besides the journal, the implementation of design research is a reflexive practice that gave me a chance to have a good relationship with my participants and represent their accounts in my report. To ensure fairness to participants through the representation of data, I included the children's and the teachers' voices by using their terminology in coding and describing the events of the data. There is no absolute validity; however, from a methodological perspective, the use of multiple methods collaboratively and iteratively provided the opportunity to generate and look into data in different ways, thereby, contributing to the rigour of the research.

3.13. Chapter summary

This DBR aimed to understand how the thinking skills of children with LD might be fostered via creative drama as a mediator of learning and development. This DBR took place at girls-only primary schools in a Saudi city. It was framed by the sociocultural perspective and used multiple data collection methods to explicate the relationships between the children with LD's interactions, their discourses, and their practice of thinking skills within creative drama activities. The following four chapters provide a detailed procedure for this DBR and present the findings of this design research.

Chapter 4

PROCEDURE, FINDINGS AND ANALYSIS

4.1. General Introduction

There is a unique similarity between design-based research (DBR) and creative drama that lies in their flexibility and dynamic nature. Both DBR and creative drama provided me with a wide range of choices and possibilities while collecting data for this study. More important, neither is fixed, which helped me to continuously shape my approach to understanding fostering thinking skills and to responding to the research question. This nature informed not only the method of data collection but also how data were analysed.

Chapter 4 of this thesis is mainly about the data, how they were collected, and the subsequent findings. It will start with a brief outline of the data collection process, followed by a list of this DBR project's design principles, drawing upon the literature of teaching thinking skills and the creative drama approach. These two sections are followed by three sections mainly focused on the detailed explanation of each iteration across this project: Sections 4.4 and 4.9 are about Phase One, and Section 4.11 explains Phase Two. Finally, I will provide an overall interpretation of the findings in order to achieve the main goal of this project (Sections 4.18 and 4.19).

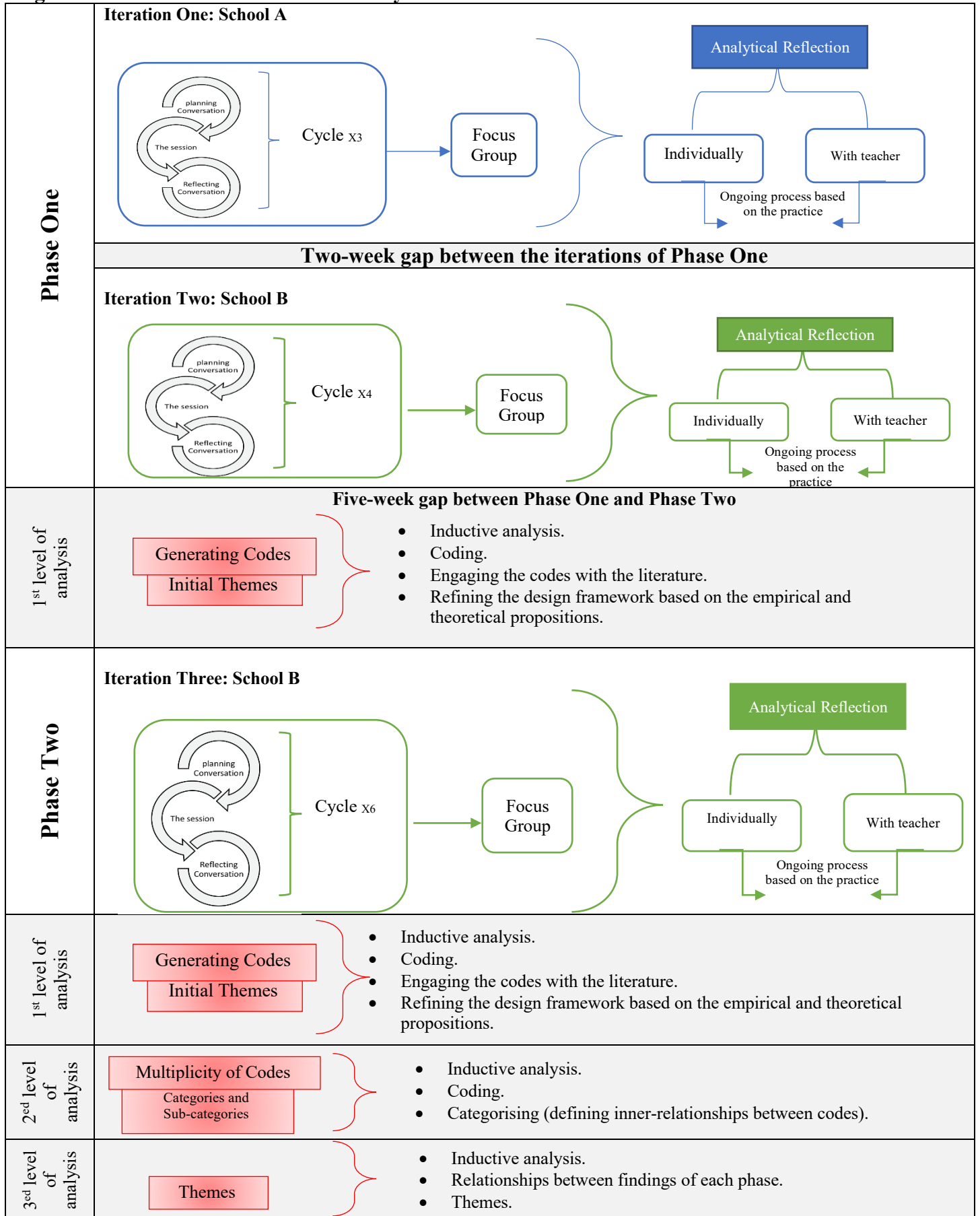
4.2. Summary of Data Collection Procedure

In Chapter 3, I considered the wider context of design-based research (DBR) and discussed the dynamic nature of DBR in the educational field and how PhD students can implement it within a limited time period. Consequently, most of my decisions regarding data collection and analysis were shaped by the awareness of the time limitation. This section aims to briefly summarize the data collection procedure (for more details, see Section 3.8). It is important to note that this outline of the procedure of data collection, as shown in Figure 4.1.

The data for this DBR were collected during the 2016/2017 academic year in Saudi Arabia. There were two different phases, each of which had its own iterations, as shown in Figure 4.1 each iteration consisted of a sequence of several cycles followed by a focus group. Each cycle focused on the creative drama sessions and comprised sequential steps of planning, implementing, and reflecting. Each session involved a combination of creative drama activities in which the children were gradually introduced to thinking skills, types, and strategies. The children's interactions during the sessions were audio-recorded, and some of the activities' outcomes were photographed (See Appendix 7). Additionally, the data collection methods were conversations with teachers (within cycles during the planning and the reflecting steps), focus groups with children (after each iteration), observations participation (of interactions during participation in the sessions), and finally my PhD journal of my participation and reflective notes during/after and about the sessions.

In summary, Phase One contained two different iterations, which were conducted at two different primary schools in Saudi Arabia. Iteration One had three cycles, and Iteration Two had four cycles. Sections 4.4 and 4.9 will explain more about Phase One, its findings, and how they informed the following phase. Phase Two, which followed five weeks of analysis, had only one iteration, Iteration Three, conducted in one school, which consisted of six cycles followed by a focus group; the details of Phase Two will be presented and discussed in Section 4.11 There was an ongoing process of analytical reflection (See Sections 3.7 and Section 3.8) throughout both phases; it helped me to link the cycles' outcomes, to understand the ongoing dialogue between participants, and understand the nature of interactions between discourses during the sessions and my conversations with the teacher.

Figure 4.1. The Data Collection and Analysis Procedure



4.3. The preliminary version of the design principles

The preliminary version of the design principles was driven by the literature of fostering thinking skills and on creative drama in relation to children with LD (see Chapters 2). It flexibly guided Iteration One of Phase One in a general sense, rather than acting as strict, fixed rules that the teacher and I followed exactly. As mentioned before, the design principles were introduced to the teachers during the introductory week of each iteration. Subsequently, in each reflection conversation, we amended the principles based on our own practices. There were three main aspects of the preliminary design, each of which included several related principles.

1. *Planning for creative drama session:*

- Each session must include all the creative drama elements (warm-up, main activity, and closing-up).
- Each session focuses on one of the thinking skills from Moseley's (2005) frameworks (starting with cognitive thinking skills and then strategic and reflective thinking).
- Each session has to follow a theme, on which the objective of that session will be based.

2. *Creating a safe and supportive environment:*

- Each session has to start by going to the imaginary land called 'Storyland', where the following ground rules apply:
 1. All answers are acceptable—there is never a wrong answer.
 2. Listen to each other carefully.
 3. Respect each other's ideas and never make fun of any answer or idea.
 4. Laugh out loud and smile whenever you want.
 5. Look out for each other all the time and move cautiously so we do not hurt each other.
 6. Think and share your thoughts.

-
- Each session has its own materials and needs; thus, the layout of the room has to be organised carefully before the session.
 - Participants have to be gradually exposed to the creative drama activity while they are participating.

3. Leading the creative drama session:

- Open a dialogue making participants aware of the possibilities they can achieve based on their collaboration.
- Invite different levels of participation by providing the participants with a chance to work in a small group, in pairs, or as one large group based on their varied levels of learning ability, motives, and interest.
- Focus on thinking skills rather than attempting to determine their expectations and creativity.
- Encourage the participants to think and practise their thinking skills by creating events, situations, and prompts that enable them to discover new ways to think.
- Establish a rhythm for the creative drama session—a stable tone in the instruction is useful for maintaining a level of organisation.

4.4. Introduction of Phase One

This section focuses on Phase One in general and Iteration One of that phase in particular. The main research question at this stage was: How can the thinking skills of children with LD be **enhanced** through the implementation of creative drama activities? The main objective was to explore this through the creative drama design in order to revise the design principles and develop a vision based on theoretical literature and empirical practice. It is worth pointing out that the terminology of the question changed as a result of the iterative notion of this DBR, and this will be explained in detail in Section 4.13.

Section 4.3 outlined the preliminary version of the design principles that guided Iteration One of Phase One. Section 4.4 focuses on how these principles worked together as

guidance, in relation to myself as a researcher and the practitioners implementing the intervention. In Section 4.7, I will discuss the refined design principles based on the findings from Iteration One. Here, I will first describe the aspects and features of Iteration One, starting with a report of the cycles. Secondly, I will describe the focus group analytically and highlight the main findings from it, which led to the key aspects of creative drama as found in this iteration. Finally, I will describe in depth these key aspects that informed my refining of the design principles and my understanding of the nature of creative drama and enhancing thinking skills in a real-world context. I will finish with a summary of the chapter.

4.4.1. Iteration One

Figure 4.2. The Data Collection and Analysis Procedure of Iteration One

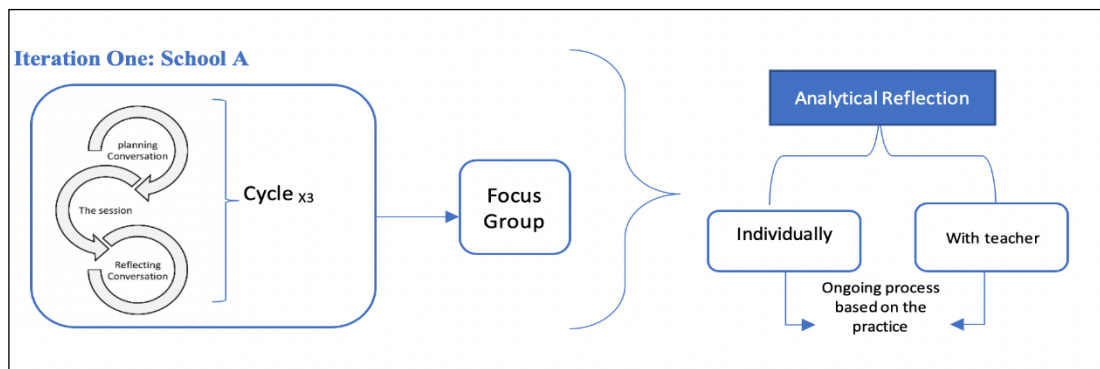


Figure 4.2 shows an overview of the first iteration. The first week was introductory. It is not part of the data collection, but it is worth pointing out that in this week I introduced the teacher to the creative drama activity through a brief seminar, observing and reflecting upon a full session led by me, and finally collaboratively implementing a mock cycle of work. After that, there were three cycles, each conducted over a week. The analytical reflection in Figure 4.2 refers to the type of reflection beyond the practice (e.g., why did the children respond this way, not as we expected, and why did this particular activity stimulate this child, not another?). It also refers to my PhD journal, where I included all my field notes and thoughts and, particularly, what I discussed with the teacher (Sarah in this iteration). This iteration was

conducted at a primary school in Saudi Arabia (School A) where six children with LD between eight and 10 years old participated.

4.4.2. Cycles

a) Cycle 1

Table 4.1: Summary of the Main Characteristics of Cycle 1

Theme	Exploratory (<i>The Snail and the Whale</i>)	Objective/s	Provide the participants with the opportunity to explore the Creative Drama Club.		Thinking Skills Focus	<ul style="list-style-type: none"> Information gathering (e.g., store, classify and compare) Logical/reasoning thinking skills (e.g., analysing, explaining, make a decision, and judgment)
Session Leaders	Sarah Arwa	Duration	70 minutes	Attendees	9 children	
				Children with LD	Fatimah, Lina, Razan, Joud, Haneen, and Amal	
Creative Drama Activities	<p>Warm-up: Mirror (the whole group—to introduce each other) Anyone who! (the whole group—icebreaking) Still images (pairs and small groups—to prepare for the main activity)</p> <p>Main activity: Living picture (the whole group—improvisation strategies)</p> <p>Closing-up: Discuss the picture, then an open question to explore the children’s reflection on the first session.</p>					
Changes for the Next Cycle	<ul style="list-style-type: none"> Clear language instruction. Determine who will lead each part before the session. Work in small groups more. Use phrases like ‘talk to each other about this or that’ to help the children to talk more. 					

As shown in Table 4.1, Cycle 1 was an exploratory cycle where all participants were introduced to the Creative Drama Club. Most of the activities were designed to be undertaken as a whole group, so the children and Sarah had the opportunity to get to know each other better and familiarise themselves with the new approach. Additionally, two thinking skills in particular were the focus of this cycle: information gathering and reasoning. As informed by the design principles, the sessions were designed to introduce the activities to the children, gradually building the level of complexity and improvisation.

The plan was that Sarah would lead the whole session while I observed. There was a very detailed discussion about the picture, which according to Sarah was a ‘surprisingly

interesting discussion'. The following extract is part of the discussion (A child refers to one of the non-participant children) :

Extract 4.1: The Source of the Picture

Sarah: Having said that, what do you think is the source of the picture?

A child: You bought it from the stationery.

Fatimah: You might have printed it out from a book.

Sarah: Why did you think of that?

Fatimah: If you see the picture, there are two lines—the blue one under the picture and the dark one on the middle of the picture. These only appear if we print things out from the computer.

Sarah: That is really a good and convincing reason. Who has different opinions?

Razan: You could have drawn it.

Fatimah: No, it is from a book.

Razan: She could be the one who drew it because look, it is already a dry painting.

Lina: And it is not a real picture.

Sarah: It could be, all—remember, all answers are acceptable.

Razan: But when I draw, I use a black pen to draw the lines, so the drawing looks good. Just like the picture.

(The Session, Cycle 1, Iteration One)

When Sarah and I reflected upon this session, we made many changes, as shown in Table 4.1, but the main issue that needed to be discussed was time management. By the end of the discussion, we both agreed that the plan of the session should be flexible, and as leader, she had the right to make changes based on the real-world context of the plan.

b) Cycle 2

Table 4.2: Summary of the Main Characteristics of Cycle 2

Theme	The Arabic vowel letters and their sounds	Objective	Expose the children to all vowel letters at the same time.	Thinking Skills Focus	<ul style="list-style-type: none"> • Core thinking skills during the whole session • Problem solving/productive thinking (hot-seat technique) • Strategic thinking (physical activity after the vowel letter story)
Session Leaders	Sarah Arwa	Duration	70 minutes	Attendees	6 Children
				Children with LD	Fatimah, Lina, Razan, and Joud
Creative Drama Activities	<p><i>Warm-up:</i> Zip Zap Zop! (the whole group—icebreaking)</p> <p><i>Main activity:</i></p> <ul style="list-style-type: none"> • Let's read a story. • Find the word that has the aforementioned vowel in any part of the word (beginning, middle, or end) (physical game). • The hot-seat technique. <p><i>Closing-up:</i> Drawing the palace</p>				
Changes for the Next Cycle	<ul style="list-style-type: none"> • Minimize the number of activities in during the main part. • Employ the imagination more. • Assign a group leader for the small group and give the children more time to work without adult help. • Increase the level of improvisation to give the children time to produce something with less guiding. 				

The theme of Cycle 2, requested by Sarah, was the Arabic vowel letters, which are on the primary school syllabus. The planned session was that the children would be introduced indirectly to the letters and their sounds. Besides that, the main focus was to provide the children with a chance to practise the targeted thinking skills listed in Table 4.2. This session was led collaboratively by Sarah and me.

The collaborative work among the children played a role in this session. There were many episodes when the children helped each other sort out the situation without going back to the activity leader. For example, during the story, Fatimah explained the meaning of the story to her friends and tried to synthesise the meaning by giving an example from their classroom. Moreover, the children during the session were able to link the vowels and their

sounds to real life: *'The meaning of the word will change without the sound of the Aa'* (Razan, Session 2, Cycle 2, School A).

In contrast to the previous session, the children's personalities were visible in this session; that might be because, as leaders, we provided them with more control over their participation, which Sarah was originally against: *'We will lose control over the class, and it will be a mess'* (Planning-Conversation, Cycle 2, School A). During the hot-seat strategy and the closing-up activity, the children like Fatimah who were capable of leading their friends were more involved than the others. That might be because of their personalities, or it could be because the other children were satisfied with their taking control over the activity.

In reflection, Sara and I both agreed to balance the control by breaking down an activity's instructions to be delivered through stages where the leader got the chance to be more involved.

c) Cycle 3

Table 4.3: Summary of the Main Characteristics of Cycle 3

Theme	Healthy and unhealthy food	Objective	Provide the children with extra level of control by exposing them to less guided activity.	Thinking Skills Focus	<ul style="list-style-type: none"> • Creativity (e.g., generate, apply, and refine ideas) • Criticality (e.g., evaluate information, argue, and express opinions)
Session Leaders	Sarah Arwa	Duration	70 minutes	Attendees	9 children
				Children with LD	Fatimah, Lina, Razan, Joud, and Amal
Creative Drama Activities	<p>Warm-up: Be your favourite food. Modified version of the still images—individually first, then small group. Bags and boxes (modified version). Main activity: Commercial break (designing a healthy food commercial) Closing-up: Presenting the product (the commercial of the main activity)</p>				
Changes for the Next Cycle	<ul style="list-style-type: none"> • Add more group work. • If the group are older, the reflection during the main activity might be done by the participants since that might help them to practise critiquing and arguing their opinions more. • The small group, if possible, should contain four participants. • Give the participants more time to practise the final product or present it more than once. 				

This cycle was designed to focus on creative and critical thinking skills; it also aimed to introduce the children to more opportunity for improvisation. Moreover, we aimed to implement all the modifications to the design principles based on the previous two cycles. The session plan was simple but had a sequential activity where each one informed the following, and the children had the opportunity to work within differently sized groups.

The session theme was healthy and unhealthy food. There was a long discussion and argument about what is really healthy. That took place not only in the open discussion but even when the children were pretending to be their favourite foods (A child refers to one of the non-focus children).

Extract 4.2: McDonald's Meal

Sarah: *What are you as a group, exactly? I can't tell.*

Lina and Amal: *We are a Happy Meal—McDonald's meal.*

Sarah: *What type of meal are you? McDonald's has many types and choices.*

Amal: *We are a burger and fries.*

Lina: *I'm the fries, and she's the burger.*

Sarah: *What type of burger are you? Chicken, beef, or fish?*

Amal: *I'm a beef burger.*

Lina: *No, I like a chicken one.*

Amal: *But I'm the burger, not you.*

Sarah: *Work as a group, think together, and decide, while Miss Arwa and I look at the others.*

Sarah: *(After talking to the rest of the participants) Are you all a healthy food?*

Lina: *No, Mum said a McDonald's meal is not healthy.*

A child: *Not only a McDonald's meal—any fast food is not healthy.*

Fatimah: *But it's okay to eat it once a week.*

Joud: *Or a month or a year (they laugh).*

Lina: *No, I like to eat it every day. And it is healthy—it has meat, lettuce, and tomato. They're all healthy, right?*

Sarah: *Every day is too much, Lina.*

(The Session, Cycle 3, Iteration One)

The children were able to create a full commercial. Interestingly, one of the groups were able to write down a poem about how healthy food is beneficial, and they presented it as a song, with everyone in the group taking part. Reflecting upon this session, Sarah and I both

agreed that the children had ‘inner energy’, according to Sarah, that just needed a leader who could direct it and provide it with opportunities.

4.4.3. Focus Group

The aim of the implementation of the focus group method was to gain additional understanding of the children with LD’s experiences within the Creative Drama Club. This focus group with the five focus children was conducted at the end of Iteration One after a reflection conversation with Sarah. This conversation was to make sure that I covered most of the aspects of Creative Drama Club as enacted in School A in my preparation for the focus group. Despite this, this particular focus group did not go well for two reasons. First, the time was limited to 35 minutes vs. our usual session time of 70 minutes. Secondly, doing crafts during the session distracted the children from participating and engaging in the conversation. The aim behind the craft activity was to obtain an informal conversation and have fun.

Despite the limitations upon this particular focus group, some of the contributions were insightful and helpful. The themes of the discussion were about the Creative Drama Club, the most likable activity, and what the children wished to change in the club. The children highlighted some important issues such as the importance of including some physical movement (A child refers to one of the non-focus children , the bold words show the exchanges within the sequence):

Extract 4.3: Physical Movement

Me: Why these activities?

*Amal: Because **we moved a lot, laughed much, and the teacher played with us.***

Razan: The still images are the best game ever.

Me: Okay, since this game is the best ever, I have three questions for you as a group to discuss: first, what is the reason this activity is the best?

*Razan: Because **we moved a lot.***

Me: Okay, that’s a reason. Just wait for me to hear the three questions, discuss it together, then answer it. The first was about the reasons. The second question is, ‘Where might we use it?’ The third is, ‘What other shapes might we do besides what we already did?’ Okay, let us talk together.

*Joud: I liked this game because **we had to think about it, then do it.***

Me: That's a good reason. What else?
Razan: We played together.
Lina: Also, we laughed so much.
Me: What else, girls? How about you, Haneen and Amal?
Haneen: I don't know (shrugged her shoulders and kept working).
Amal: They said all the reasons.
Lina: Miss, can we do it now?
Me: Do what?
Lina: The game.
Me: Okay, suggest to me some shapes or things that we can pretend to be.
(Focus Group, Iteration One)

In Section 3.9, I explained the analytical procedure of this DBR. Moreover, I explained the rationale behind using discourse analysis. As mentioned before, I decided to start the secondary analyses with the focus group, followed by the cycles. This approach implies my insider's perspective was shaped by the participants' perspective of their experience as members of the Creative Drama Club.

While analysing the data from this focus group, I noticed that the children referred to the three main aspects of a creative drama session—voice, body, and imagination—as part of their good experience. However, seemed to refer to two features of the creative drama session in particular:

- **Feature 1:** *Different forms of participation: verbal, physical, or listening.*
Observing, practising, and learning the art of creative drama, as enacted in this iteration, also involved using the three tools of creative drama: voice, body, and imagination. Leading a session using these tools meant that the children were expressing themselves and communicating their thoughts using three different modalities. Their participation could take a verbal, physical, or listening form. This is one way in which the use of creative drama provides a way for children, particularly children with LD, to participate.
- **Feature 2:** *The ground rules of Storyland inherently allowed multiple levels of thinking, participation, and collaboration.*
The ground rules helped shape the different forms of participation and advanced it to a different level where the participants could communicate their thinking and

collaborate with their peers. This feature referred to the culture that was established via the creative drama and how the children experienced it.

Extract 4.3 exemplifies how these features of the Creative Drama Club emerged in the discourse among the participants. In this extract, the children discussed physical movement in particular as one of the reasons that they loved the activities. In the bold sentences, Amal, Razan, and Joud provided different reasons that ‘The Still Images’ was one of the best activities they had been involved in. Starting with Joud’s reason, she claimed that there were two different levels of participation or communication. First was the intrapersonal level, where the individual thought of a particular thing: ‘We had to think about it’. Second was an interpersonal level where the individual shared that thinking with an external individual in any form: ‘then do it’. In contrast, the second feature might be exemplified by Lina’s, Razan’s, and Amal’s opinions. They talked about the forms and types of participation. It could be collaboratively, through sharing feelings, or even with the teacher, who usually did not engage with the children at this level.

It is important to note that these are tentative features; they are just a start that helped me to understand the learning culture that was developed within the creative drama activities. Starting with these two features, I was able to explore the participants’ discourses during the sessions from broader perspectives where my insight was shaped not only by myself but by the participants as well. The following section will shed light on the three main aspects of creative drama that were drawn upon in the enactment of Iteration One.

4.5. Key Elements of the Creative Drama Club

Even though the focus of Iteration One was piloting the design principles, I was able to explore the nature of the learning environment within creative drama. At this stage of the research, with regard to the sub research questions, it was hard to say whether there was any enhancement of the children’s thinking skills at this stage of the study. But there was some anticipation in regard of the children demonstration of practising thinking, such as the use of

language. To illustrate, the children started to use vocabulary that might indicate thinking skills, as during the ‘Commercial Break’ activity:

*The time wasn't enough, **but I guess** our mistake was that we did not help each other and our voices during the commercial were not clear.*

(Joud, Creative Drama Session, Cycle 3)

The vocabulary that Joud used during her group’s evaluation of their own commercial shows that there was a level of awareness of their responsibility toward their work. Additionally, Joud presented three reasons for being clear and cautious via the use of ‘I guess’, which might indicate not only the awareness of responsibility but also the implementation of critical thinking skills. However, in this iteration, besides the features discussed previously, three key elements (Shown as categories in Table 4.4.) emerged from the data, which all helped to predict the creation of an inclusive learning environment. They are the levels and forms of participation, the direction of the relationship, and democracy.

Before discussing these key elements, it is worth explaining what I mean here by ‘inclusive’. The term ‘inclusive’ is problematic; it has different definitions among different disciplines. I thought a lot when considering choosing this term to define the learning environment that might be created within and through creative drama, specifically at this stage of the research where the findings are still abstract and there is limited insight. However, I made up my mind when Sarah said:

I totally forget about the children's different levels of abilities; they all were the same for me. The children's abilities are beyond my expectations.

(Sarah, Reflection Conversation, Cycle 3)

As a researcher who is interested in thinking skills and creativity, for me, being inclusive means that the learner is part of the learning process. The teacher and the learner have to be involved in the process simply because thinking can be understood as dialogue. However, it is not a one-way process; thus, from the enactment of creative drama, an inclusive learning

environment might occur when the teacher and the learners with all levels of ability are thinking together in order to achieve the desired goal.

The data support this argument. For example, referring to Extract 4.3, the children with LD stressed that they loved their experiences in the Creative Drama Club because they laughed and moved a lot. During the discussion, most of their reasoning about their experiences in Creative Drama Club was about moving a lot, using their bodies, and laughing. Thus, if an inclusive environment means that all the parties in the learning process are involved in the processes of thinking and learning, then Amal's justification of why she enjoyed the club might support the idea of how physical involvement helps children with LD to use their imaginations, to participate with other children with different levels of ability, and to create an inclusive learning environment: *'Because we moved a lot, laughed much, and the teacher played with us'* (Amal, Focus Group, Iteration One). According to Amal's reflection, inclusivity is not just about the children but about being learning partners (both the teacher and the children). This understanding will be explored in greater depth during Iteration Two.

To refine the design principles, I focused on how the principles guided the enactment of the sessions of the whole iteration. The aim was to explore them in action in order to refine them for the next iteration. Thus, I analysed into the participants' discourses in relation to find link between their reflection on the design principles. I also focused on the teacher's reflection upon these principles in relation to how it helped her to design and apply the session of creative drama. Table 4.4. is a sample of the coding scheme of Iteration One; it shows the overlap between the categories (which are the key elements of Creative Drama Club). For example, 'the ground rules' as code, it referred to the data that resulted from a particular design principle. It was part of two of the categories. Along with the following sections, Table 6.4. presents evidence from the data to show the three key elements of creative drama that emerged from the data analysis of Iteration One, Phase One.

Table 4.4: Sample of the Coding Scheme of Iteration One

Category	Definition	Codes	Description
<i>Levels and Forms of Participation</i>	The children with LD are able to participate at different levels depending on their abilities.	Vocabulary	When the children reflected using specific vocabulary that indicates thinking such as ‘because’, ‘I disagree’, or ‘I think of’.
		Physical	All the emotions, reflections, and thoughts that were mentioned by the children with LD or Sarah about the use of physical movement within the activity.
		Group Size	The children were participating within different group sizes—the whole group, groups of three, and pairs—but rarely individually.
		Sensory and Imagination	The third element of creative drama is the use of imagination. The leader said it with the instructions, and all the children invented during improvisation.
		Level of Participation within the Activity	Multiple activities and strategies were gradually introduced to the children. Also, each one of these activities might have a different level of difficulty or participation.
<i>The Direction of the Relationships</i>	The forms of relationships across the learning environment (between the children and the teacher and between the children themselves) are different.	Fluency of Thinking	This is the ability to encourage the children to keep thinking via talking to each other.
		Ground Rules	One of the design principles.
		Leader Role	The teacher’s role as a guide during the creative drama session.
		Relationship	The relationships between the children themselves and between them and the creative drama leader.
		Collaboration/Helping	Within the children’s participation, this includes any kind of help, assistance, or support among the children.
<i>Democracy</i>	Both the children and the teacher have a voice by thinking together to achieve the desired goal of the activity.	Freedom	This refers to the children’s taking control of their learning process (mentioned by Sarah).
		Adding/Suggestion	The children made suggestions during the session activity to their peers or during any reflection.
		Ground Rules	One of the design principles.
		Leader Role	This code is about the teacher’s role as a guide during the creative drama session.
		Freedom to Talk	Mentioned by Sarah during her reflection conversation. She meant that the children were free to say whatever they thought was right and appropriate to share, and she, as the leader, had to accept it, even if she disagreed with it.

4.5.1. Levels and Forms of Participation

In each of the creative drama sessions in this iteration, the children with LD were asked to participate in different forms of activities that were inherently inclusive because the children could participate collaboratively at multiple levels, depending on ability and desire. There was no special accommodation for any child; they were all exposed to the creative drama gradually and through different levels of participation. To illustrate further, not only did each session have a different type of activity (e.g., a warm-up activity), but there were also different creative drama strategies, each of which had a different level of improvisation and imagination.

Additionally, the different levels of participation also appeared through the implementation of different group sizes. Within each activity, the children were working in different group sizes using different modalities (individually, in pairs, and in the small/big group). For example, during the ‘Still Images’ strategies in Cycle 3, the instruction started by asking the participants to name their favourite foods (whole group). After that, the creative drama leader asked them to embody that food as they thought it would look (individually, but within the whole group). After that, the instruction was to work in a small group (of two or three) to present any preferable healthy foods.

Interestingly, on the other hand, in Extract 4.2: McDonald’s Meal, when Lina’s group pretended to be a Happy Meal from McDonald’s, they asked me to be part of the meal because it contains three objects: the fries, the burger, and the drink. So, they were comfortable asking for help, which according to Sarah’s reflection on this episode *‘is not usual—children are not familiar with me as part of their play*. This ‘unusual’ collaboration between the adult and the indicated that inclusivity in creative drama is collaboration between all parties within the learning process. In addition, referring to the same extract, from the first step of this activity, Lina’s choice, a McDonald’s meal, is a junk food. However, she convinced her partner, Amal, that fast food is an unhealthy choice but is alright to have once a week. From that example, we might see how the children with LD were exposed to different levels of participation based on

their interests, choices, and levels of ability. Moreover, as a category (Table 4.4), the different levels of participation might also be created via the different forms of physical involvement. Thus, the children within the Creative Drama Club were exposed to different levels and forms of participation, which might be considered one of the main aspects of creative drama that can be developed through the implementation of the design principles.

4.5.2. The Direction of the Relationships

In any form of educational relationship, there are multiple directions: from the learner to him/herself, among the learners, and between the learner and the practitioner. The norm of the Saudi educational system is that the learner is a passive receiver of information, while the teacher is the active party who delivers the information. However, within the use of creative drama, that norm changed, and everyone was part of the learning process. Thus, the nature and direction of relationships adopted new structures. This adaptation was visible in many aspects, such as the role of the leader. According to Sarah, she had a good relationship with her students before, but within the creative drama session, there were some boundaries being pushed—for example, how the children asked for my participation to complete their imaginary favourite meal (Extract 4.2: McDonald’s Meal). Moreover, the data showed that the children noticed that the teacher was there not only to lead the session but also to engage with them on a different level (see Amal’s justification in Extract 4.3: Physical Movement).

Additionally, from my participation and observation, I noticed that the ground rules created a culture of trust that supported everyone’s emotions. The children felt safe and were able to share what was in their minds freely, without hesitation. Sarah had an opinion on that also:

The use of rules also helps to create that bond. Both the children and I as a leader were comfortable with the level of freedom. It is not only free—it is the flexibility of everything within the Creative Drama Club.

(Sarah, Reflection Conversation, Last Visit)

The collaborative work in this project helped the children with LD to communicate their thoughts, to trust their abilities, and to share their opinions. This seems to be not only due to the ground rules and safety but also because of the awareness that thinking together is a powerful tool. Thus, they had to share in order to activate the goal.

However, some people might argue that, because the children were working mostly in groups in this project, the competitive spirit might have forced the children to help each other not only for the sake of helping. However, competition was never an option because the trend within creative drama is to create something that you like and share it with others. There is no right or wrong, no better or worse. All answers are acceptable within the Storyland ground rules. Nevertheless, during the ‘Commercial Break’ activity, one of the children asked which commercial was better because there was an obvious difference between both commercials. But Sarah handled the situation as an expert: she reminded the children of the rules, then she asked the children to sit in a circle and talk for a few minutes about what they thought were the good things about each commercial. The children started to complement each other’s work. For example, Fatimah said, *‘we know that their voices were low, but the salad shop commercial is great because they thought of something different’* (Session 3, Cycle 3). Amal said, *‘I liked that you wrote a song, I think you should tell the Arabic teacher about it’* (Session 3, Cycle 3). These two examples show us how the role of the leader is important to maintain the relationships between participants.

One of the codes associated with the theme of this category was fluency of thinking. At this stage, this is defined as the ability to encourage the children to keep thinking aloud by talking to each other. It is worth noting that after I conducted the pilot session for Sarah, she was worried that she would not be able to keep up with the children’s imaginations. She was also concerned that the norms of traditional teaching would block her thinking and limit it to what she knows by heart: the curriculum. That was a possibility, and one of my worries too. In contrast, Extract 4.1 shows that Sarah was able to provoke the children’s thinking and keep the

conversation flowing during the discussion of the originality of the picture used within the activity. However, the relationships that were created between the children and their teacher and among themselves enabled the thinking process to be continued as long as possible. This was simply because all the participants were working together in the thinking process, creating an inclusive learning environment where the children with LD could practise their thinking skills.

4.5.3. Democracy

Although democracy as a category was hard to elicit at this stage of the research and it needs more data to be developed, Sarah used the term ‘democracy’ particularly during her reflection conversation before the focus group to explain the context of creative drama. Moreover, she illustrated the term using one of the main codes under the democracy theme: being ‘free to talk’. To explain Sarah’s meaning, Extract 4.2, when Lina attempted to convince the group that it is all right to eat unhealthy food sometimes. The main goal was to discuss the meaning of healthy food, its benefits, and how it raises the children’s awareness of healthy choices. In contrast, Lina was sharing the opposite perspective. In this case, Sarah and I had to accept Lina’s proposal, and she discussed it with her peers. This type of freedom in sharing, where every participant has a voice, is something unique within this project. It not only relates to the creation of an inclusive learning environment but also provides an opportunity for the children with LD to practise their thinking skills by making inferences, asking questions, and questioning the truth.

Having a voice is supported by the Storyland ground rules, as they encourage everyone to think and share. All participants had the right to amend a situation if needed. For example, when the discussion took a long time during the first session, one of the children suggested that we do a physical activity. Another suggestion was made by Lina during the focus group when she asked if we could do the ‘Still Images’ activity while we were talking about it. Not only did this relate to the session itself, but Fatimah suggested that the other group could do a role

play for their commercial. All these suggestions were made by the children. They were said freely, and the children were able to critique the situation and provide solutions.

4.6. Summary of Iteration One

The aim of Section 4.4 was to explore the design principles of this current DBR in practice in order to refine the principles for Iteration Two. I identified two different features created by the implementation of these principles in connection with the children's discourses: (1) There are different forms of participation—verbal, physical, and listening—and (2) the Storyland ground rules inherently allow multiple levels of thinking, participation, and collaboration. However, after more in-depth investigation, these two features became one key element of the Creative Drama Club. They are not the same; in some cases, both became a matter of a choice to the child during the activity. That led Sarah and I to consider how democracy can be established through these principles and how it can help children, especially those with LD, to practise thinking skills inclusively with others. Not only that, but democracy could also be created as a result of the nature of relationships within the creative drama culture. Focusing on that, and on the children's language in practice, creative drama shed light on the culture and the environment developed by the implementation of the design principles during this iteration.

At this stage, the findings were still abstract; however, I was particularly interested in the process of how thinking skills can be enhanced through creative drama and how the children constructed these skills through practice. Therefore, this project was designed to include phases where I could observe, record, and even participate with my participants. In order to answer further questions, the following chapter builds on the findings from this one, aiming to detail the key aspects of Iteration Two of Phase One.

4.7. Introduction of Iteration Two

As mentioned before, the overall aim of Phase One was to provide design principles driven by theory and practice in order to achieve the purpose of this design-based research

(DBR). It had two separate iterations: Section 4.4 highlighted Iteration One in detail. This part of Chapter 4 focuses on Iteration Two of this phase, drawing upon the findings from Iteration One. Starting from Section 4.9, the aim is to provide more coherent design principles in order to guide the following phase of this DBR by investigating all the aspects of Iteration Two analytically, particularly the enactment of creative drama and the children's discourses during the sessions. It will start by highlighting the refined design principles and providing a list of principles that guided this iteration. After that, I will provide a detailed description of the procedure of this iteration. The analytical part will start from the findings of the focus group, followed by the key aspect of Creative Drama Club in Iteration Two. Finally, I will end this chapter with a summary of the important findings of the whole of Phase One.

4.8. The Refined Design Principles

One of the most important aims of the design principles of this project was to guide the implementation of creative drama sessions. Thus, they had to be aligned with the purpose of this research, enhancing thinking skills for children with LD. However, the findings of Iteration One highlighted how the design principles played a role in creating an inclusive learning environment where all parties of learning were involved. Moreover, amending the principles indirectly started during the reflection and planning conversations with the teacher (Sarah) through asking the questions, 'What to change?' and 'How did it help?' Both questions were asked in order to increase the likelihood of the participants' practising thinking skills.

Amendments were made to the design principles across the three main aspects: 1) planning for the creative drama session, 2) creating a safe and supportive environment, and 3) leading the creative drama session. The changes made at this stage were not major changes and thus might be considered refinements, rather than revisions, of the initial design principles. To illustrate, starting with the first aspect, the planning of the session, from the example provided in Sections 4.4.2 and 4.4.3, many children with LD claimed that the physical involvement and the ability to move freely around the learning space was one of the reasons of they had a good

experience in Creative Drama Club. Therefore, within this iteration, in each phase of the session, there was a type of physical movements within the activity.

In Sections 4.4.3 and 4.5.1, I discussed how the ground rules created a culture that included diverse forms and levels of participation, whereas in the regular classroom, the direction of participation usually from the child to the teacher by sharing information orally. However, that impacted some of the children negatively in that they did not participate at the same level as their peers. Thus, I decided to add a new rule: ‘We love to hear your voice.’ I thought that might increase the level of trust between participants by giving them the choice to engage and participate.

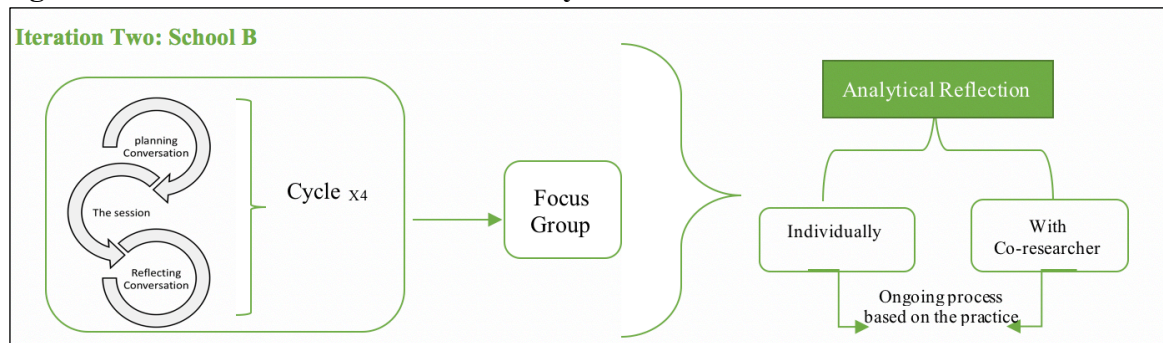
In addition to the changes above, there were some practical changes. Table 4.5 summarises all the amendments made to the principles between iterations. The column titled ‘Iteration One’ shows the original version of the principles under each aspect of the main design principles, whereas the column titled ‘Iteration Two’ shows only the changes within each aspect, particularly the substitution of the principles in Iteration One.

Table 4.5. Summary of the Changes to the Design Principles Between Iterations in Phase One

The Design Principles	
ITERATION ONE	ITERATION TWO
Planning for creative drama session	
<ul style="list-style-type: none"> • In each session, the creative drama elements (warm-up, main activity, closing-up) should be included. • Each session focuses on one of the integrations thinking skills frameworks, starting with cognitive thinking skills and then strategic and reflective thinking. • Each session has to follow a theme, and the objective of that session will be based on the selected theme. 	<ul style="list-style-type: none"> • In addition to the creative drama elements, there should be a form of physical involvement in each phase of the session. • Each session focuses on one of the thinking skills (based on Mosley et al.'s 2005 framework) in terms of planning only, not reflection.
Creating a safe and supportive environment	
<ul style="list-style-type: none"> • Each session has to start by going to the imaginary land called Storyland, where there are ground rules. • Each session has its own materials and needs; thus, the layout of the room has to be organised carefully before the session. • Participants have to be gradually exposed to the creative drama activity while they are participating. 	<ol style="list-style-type: none"> 5. Add to the ground rules ‘We love to hear your voice.’ 6. If the closing-up is about what we learnt, it has to be through an open question or statement, so the children do not feel that they have been assessed or critiqued.
Leading the creative drama session	
<ul style="list-style-type: none"> • Open a dialogue and make participants aware of the possibilities they can achieve based on their collaboration. • Invite different levels of participation by providing the participants with a chance to work in a small group, in pairs, or as a whole group based on their varied levels of learning ability, motives, and interest. • Focus on thinking skills rather than attempting to determine their expectation and creativity. • Encourage the participants to think and practise their thinking skills by creating events, situations, and prompts that enable them to discover new ways to think. • Establish a rhythm for the creative drama session—a stable tone in the instruction is useful for maintaining a level of organisation. 	<ul style="list-style-type: none"> • Prompt the children and encourage them to talk more to each other. • The activity leader has to participate and engage within the activity if needed (e.g., if one of the children has no partner or is playing a character). • Each activity in the session should have instructions. • The activity instructions must be clear. • Repeat the instructions of the activities if needed.

4.9. Iteration Two

Figure 4.3. The Data Collection and Analysis Procedure of Iteration Two



This section highlights the main characteristics of Iteration Two of Phase One. This iteration was conducted over a six-week period. As shown in Figure 4.3, It contained four cycles followed by a focus group. As in Iteration One, each cycle focused on a session, which involved three consecutive steps: planning, implementing the session, and reflecting. This six-week iteration started with an introductory week like the previous iteration. All the information was passed through conversation, but during this week, the teacher, Norah, was introduced to her new role as leader and to the creative drama activities and strategies. The aim of this week was to provide the teacher with all the information that she might need about creative drama and thinking skills. This iteration was conducted in a different primary school to Iteration One, School B. Six children with LD between eight and 12 years old participated. The following section is a detailed overview of each cycle.

4.9.1. Cycles

a) Cycle 1

Table 4.6. Summary of the main characteristics of Cycle 1

Theme	Exploratory (<i>Frozen</i> by Disney)	Objective	Introduce the children to creative drama for the first time		Thinking Skills Focus	<ul style="list-style-type: none"> • Information gathering • Reasoning
Session Leaders	Norah Arwa	Duration	50 minutes	Attendees	13 children	
				Children with LD	Maryam, Reem, Jana, Hannah, Lama, and Nouf	
Creative Drama Activities	<p>Warm-up: Mirror (the whole group—to introduce each other) Sound across the circle (the whole group—icebreaking)</p> <p>Main activity: Reading the story (whole group) Open discussion (whole group) Living picture (the whole group—improvisation strategies)</p> <p>Closing-up: Discuss the picture, then an open question to explore the children’s reflection on the first session.</p>					
Changes for the Next Cycle	<ul style="list-style-type: none"> • The use of vocabulary during the sound across the circle activity—instructions. • More eye contacts. • Give them a statement to discuss instead of questions. 					

The first cycle of this iteration aimed to be an exploratory one, where all participants had the chance to be introduced to each other and to the creative drama culture for the first time. For those reasons, all the activities were designed to be undertaken as a whole group. However, during this session, time management was an issue; thus, we were not able to do the ‘Living Picture’ activity as planned. Despite the lack of time, the children’s participation during the open discussion about the story of *Frozen* led the session in a different direction where they had to stop before doing the activity. The discussed topic, chosen by the children, was Anna’s engagement. The children analysed the episode of the engagement and compared Anna’s actions and reaction to that particular event. Unfortunately, there was insufficient time to discuss more events. The following extract was part of that discussion (A child refers to one of the non-participants children):

Extract 4.4. Frozen

Norah: What do you think?

*Lama: Because she's **afraid**.*

Me: Afraid of what?

Lama: I don't know (shrugs her shoulders).

Me: Does anyone else have an opinion? (No one replied.)

Norah: I agree with Lama; Elsa might be afraid that she will lose her sister.

A Child: She already isolated herself in the room, so there's no difference if Anna gets married.

*Lama: **But** she loves her sister.*

Me: I totally agree, she does.

*Reem: **I think** Elsa did not like Hans.*

*Hannah: No, **she did not know him**. So, **she wouldn't approve** of him. **Because later when she knew Christopher she agreed**, and she did not say anything about their friendship or engagement.*

Me: So, is the problem Hans, or the way of the engagement?

Child: I think the way.

Norah: I think that too.

(The Session, Cycle 1, Iteration Two)

Regarding the characteristics of the principles that were met, the children with LD contributed to the achievement of the main goal of this session by engaging in all the proposed activities. Moreover, the physical involvement during the warm-up enabled 'children with LD to have eye and physical contact' (Norah, Reflection Conversation, Cycle 1). Lastly, the main activity had a familiar and entrusting theme that all the children could relate to. This enabled them to communicate and share information. In contrast, a very crucial principle was not taken into consideration within the main activity: clear instructions. Instead of clearly explaining the activity after reading the story, which could have enriched the dialogue level, we gave the instructions at the beginning of the activity.

b) Cycle 2

Table 4.7. Summary of the main characteristics of Cycle 2

Theme	Social Media Influencers	Objective	Provide the children with the opportunity to express their opinions about the topic.		Thinking Skills Focus	Cognitive Skills
Session Leader	Arwa	Duration	50 minutes	Attendees	12 children	
				Children with LD	Maryam, Reem, Jana, Hannah, Lama, and Nouf	
	Creative Drama Activities	<p>Warm-up: Anyone who! (whole group—icebreaker)</p> <p>Main activity: Discussion about the theme (pairs—whole group) Short scenes (small groups—improvisation strategies) Commercial break (two big groups—creative thinking process)</p> <p>Closing-up: Presenting the commercial</p>				
	Changes for the Next Cycle	<ul style="list-style-type: none"> • Prompt the children by applying different materials to help them achieve the task. • Power of age—in grouping the children, be aware of age differences. • The creative drama phases should not only have involved physical involvement but also have acted sequentially to support the main goal of the session. • Introduce the children to narrative strategies, which might enable the children to practise more thinking skills. 				

This cycle focused on cognitive thinking skills; it also implemented the process of creative thinking skills during its main activity. Unfortunately, I led this session alone because Norah had to attend a workshop outside the school. After discussing some of the influencers, the children were introduced to the improvisation strategy for the first time. In the activity, I was assigning each one of them a character and having them improvise the conversations between an influencer and her followers (fans) in a shopping mall. The children practised all the cognitive thinking skills (i.e., application, analysis, and evaluation) as well as their communication and social skills.

The main activity was the ‘Commercial Break’, which focused on creative thinking skills. It combined multiple stages where the children were able to talk to each other, reflect on each other’s work, and refine the work based on the discussion. Moreover, the children were

able to present their final product and justify their decisions. The instructions were not only verbally provided to the children but also written on the whiteboard. This enabled me to remind the children of their tasks whenever needed during this activity. Additionally, within this activity, the children interacted with and responded to each other more than in the previous session.

In this session, the common goals of all activities could not be achieved without the children's communication and interaction with each other. Despite the similarity between the children's reflections on each other's work, all the children participated and engaged during the activities. However, a child-centred activity was the major change in this session, and with regard to this, as creative drama leader, I had interjected or prompted only when needed. In relation to that, for the following session, Norah and I decided that we might prompt the children by providing different materials to help them achieve the task. Lastly, to increase the opportunity to talk, we decided that we might introduce the children to narrative strategies, which might enable them to practise more thinking skills.

c) Cycle 3

Table 4.8. Summary of the main characteristics of Cycle 3

Theme	Animals	Objectives	To help the children think of a character and build their characters gradually through time		Thinking Skills Focus	Cognitive Skills Creative Thinking Skills
Session Leaders	Norah Arwa	Duration	50 minutes	Attendees	12 children	
				Children with LD	Reem, Jana, Hannah, Lama, and Nouf	
Creative Drama Activities	<p>Warm-up: Still images (individually, whole group)</p> <p>Main activity: Narrating a story (whole group—improvisation strategies)</p> <p>Closing-up: Whoosh a story (whole group—physical improvisation)</p>					
Changes for the Next Cycle	<ul style="list-style-type: none"> • More verbal activity with no need to face the whole group. • The thinking skills focus could be adjusted by adding a problem to solve where the children might practise both creative and critical thinking. 					

This cycle followed animal themes, which were all designed to help the children build their own characters gradually over time. The warm-up activity was designed to help the children categorise their chosen animals based on their natures indirectly through the physical interaction. It also enabled them to make some decisions regarding their voices, movements, and expressions as animals. The main activity was informed by that: each child had to narrate part of the story based on her character (the chosen animal).

All participants had enough time to narrate their parts, but Hannah refused to participate or add anything to the story. Norah mentioned after the session that ‘Hannah had a lack of verbal communication.’ Nonetheless, because the design principles aimed to create a safe and supportive environment, we accepted that and moved to the following child. Subsequently, the children had the chance to memorise their parts by repeating their lines while refining the story. That helped them play their roles. Moreover, the use of forest sound effects during the enactment increased the children’s enthusiasm.

The finding of this session was that the improvisation strategy provided the children with the ability to communicate their thoughts. Alongside improvisation, the grounded roles encouraged them to practise their communication skills by helping each other during the activity. Additionally, the children practised their language and expressed their thoughts in a safe and supportive environment.

In this cycle, the design principles were met. Whether the children worked individually or as whole group, there was no indication of any ageism. Additionally, all activities were designed to help each other to achieve the goal of all children engaging in thinking and talking to each other. Moreover, the common goal of these activities could not be achieved without the children's communication. In the main activity, each child contributed equally to achieving the goal by listening to each other and by linking the current information with prior knowledge to produce part of the story. In addition, the sound effects and the picture made a major contribution to the session by increasing the children's enthusiasm and creating a different atmosphere. Having that in mind, the data analysis revealed that having different contents, forms of prompts, and procedures in each session enabled the children to participate and practise their thinking skills at different levels.

During the reflection conversation, Norah and I mainly focused on Hannah's incident. We both tried to understand why she refused to narrate her part, even with her peers' help. Norah justified that

Hannah has a problem structuring her sentences. Compared to her age group, she has less vocabulary. That never happened with me during her one-to-one session, though I think she doubted her ability and refused to participate so she did not have to deal with her problem in front of the rest of the group.

(Reflection Conversation, Cycle 3, Iteration Two)

Therefore, the next session Norah and I had to make sure that there was a mix of verbal and nonverbal activity with no need for facing the whole group with no need for facing the

whole group. Moreover, in order to provide the children with a different level of practising thinking, we decided that we might challenge the children more.

d) Cycle 4

Table 4.9. Summary of the main characteristics of Cycle 4

Theme	Helping Others (The Snail and the Whale)	Objectives	To help the children practise their critical and creative thinking		Thinking Skills Focus	Problem Solving
Session Leaders	Norah Arwa	Duration	50 minutes	Attendees	13 children	
				Children with LD	Maryam, Reem, Jana, Hannah, Lama, and Nouf	
Creative Drama Activities		<p>Warm-up: The random word (pairs—improvisation strategies)</p> <p>Main activity: Mystery letter to Storyland: reading and discussing citizen (whole group—imagination) Hot-seat technique (pairs and whole group—improvisation strategies)</p> <p>Closing-up: Concept map (two groups—summarising the discussion outcomes)</p>				

In the final cycle of this iteration, the focus of the session was problem-solving. Besides the warm-up activity, this session built upon imagination, starting with the imaginary letter directed to the children from a resident of Storyland. It was designed to help the children practise their critical and creative thinking. Thus, the discussion started by asking the children what the problem was. After identifying the problem and discussing it, the children proposed a solution based on logic, and they used the information that they had been provided by the letter and their prior knowledge to evaluate the proposed solution. The second part of this activity was the ‘hot-seat’ strategy, where we expected that the children would offer to go to the injustice king for help. When they provided more than that, I directed them to a planned answer, which will be highlighted later in the findings section. After defining the problem and agreeing on the solution, Norah took the lead by acting as the king, and the children asked her about all the information they thought was important to know. For the closing-up, in two groups based on age, the children summarised on a pre-prepared mind-map the information given by the king and then presented this information to the whole group.

The session of this iteration followed the design principles to a great extent. The common goal of all activities, except the initial warm-up, was to enable the children to practise their critical and creative thinking through interaction and the communication of their thoughts. By completing all parts of the main activity, each child contributed to solving the problem. Moreover, the prompts within this session were in different forms, and the creative drama leader engaged verbally with the children to help them keep talking and communicating. Moreover, the use of the bottle for the letter and the crown for the king helped the children to imagine the scene and act easily in it. The children also had the opportunity to practise and be involved in different levels of thinking skills and abilities. It is worth pointing out that, based on the findings of this session, posing a problem to the children led to higher-level thinking and increased dialogue space.

4.9.2. Focus Group

This focus group was guided by the reflective analysis of all four cycles within this iteration. Additionally, the findings of Iteration One helped shape the outline of the discussion guiding this focus group. In order to ease the pressure that children may experience if they are questioned, we implemented the focus group as a regular creative drama session. It had a warm-up, main activity, and closing-up. The focus group was designed to cover the following themes: favourite activity, ground rules, the challenges that they might face, and finally, what they would like to change about the club. Interestingly, during the main activity, the children added the topic ‘comfortable’ to these discussion themes.

The analytical procedure of this focus group, like that of the previous one, drew on Bakhtin’s discourse analysis theory (Bakhtin, 1986). The aim here was to link the design principles to children’s perspectives of what enhanced or helped practise thinking skills, within and across the creative drama sessions of Iteration Two. I was concerned with questions such as ‘What is the appropriate approach to implement a creative drama session?’, ‘What enhances thinking skills?’, ‘What are the appropriate motivational or prompting tactics for this particular

situation?', and 'What is the role of the leader and the group work within creative drama sessions in relation to enhancing thinking skills?'. The nature of this DBR allowed me to follow an iterative and reflexive form of data analysis in the analytical reflection and through the changes during the cycles, posing the questions 'What to change?' and 'How might it help?'

In this focus group, to answer my questions, I focused my analysis on all discussed themes together and did not make a distinction between them in relation to the children's actions, language, and decisions during any dialogue across the creative drama activities of and the focus group of Iteration Two. This enabled me to have a bigger picture of what Iteration Two included in relation to the children's perspectives and experience and to link this with Norah's. As shown in Table 4.10, I categorised all the findings from the discourse data into four main categories: Experience, Characteristics, Barriers, and Benefits and Beliefs. These categories enabled me to establish an initial coding scheme that guided the secondary analysis of the data from Iteration Two of Phase One. Each category had its own definition driven by the findings from the data analysis. As can be seen in Table 4.10, the codes overlap between categories. Some of the codes were in more than one category (e.g., Collaboration), while others were limited to one category (e.g., Hesitate). In the same vein, some of the codes were brought up in the focus group only by the children (e.g., Comfortable), while others were developed from different data sources and by the teacher (e.g., Ground Rules).

The extracts in Table 4.10 exemplify how the categories were constructed from the participants' discourses during this focus group. Extracts 4.5 and 4.7 came from the same dialogue. As mentioned earlier, there were four themes to discuss; however, the children established a new theme, which was about what made them feel comfortable. Because it was from the children, I decided to trace this topic back to other events during the sessions, which will be discussed later in Section 4.10. Another interesting point about these extracts is that they shared the design principles indirectly because children signposted the principles through their words. For example, one of the design principles in Iteration One was that 'the children

have to be introduced to different levels and form of participation.’ In Extract 4.6, the children claimed that there was a ‘powerful’ link between the thinking and group work within an activity in a way that helped them achieve the targeted task. According to that extract, the children were aware that working together covered the limitations in knowledge or abilities among the group members. In other words, this particular example shaped the meaning of collaboration for the participants in a context that aimed to enhance thinking skills.

These four categories were only established at this stage to revise the design principles and understand the culture of creative drama in order to enhance the thinking skills of children with LD. I will illustrate these categories further in the following section when I discuss the environment that was established through the enactment of creative drama in Iteration Two of Phase One.

Table 4.10. Overview of the main findings of the focus group from the Iteration Two

Category	Definition	Example (A child refers to one of the non-participant children)	Codes
Experience	The children with LD defined the Creative Drama Club generally and described their own experiences during the Creative Drama Club	Extract 4.5. Comfortable <i>Me: You mentioned that in the club you feel comfortable. Are you all comfortable? (All said yes.)</i> <i>Me: What made you comfortable?</i> <i>Nouf: We play a lot.</i> <i>Reem: Yes, that's right, we never stop.</i> <i>Me: So, playing all the time made you feel comfortable?</i> <i>A child: We laugh and play together.</i> <i>Nouf: And we are having fun together in our Storyland.</i>	Powerful
			Fun
			Laugh
			Easy
			Collaboration
			Characteristics
Fun			
Play			
Share Information			
Talk Free			
Design and Plan			
Collaboration			
Collaboration			
Collaboration			
Collaboration			
Barriers	Perceived barriers to effectively communicating their thoughts, ideas, and perspectives	Extract 4.7. No Hesitation <i>Nouf: Never hesitate to say something.</i> <i>Me: Why is that, Nouf?</i> <i>Nouf: Because no one will laugh at you, even if you said silly things. Therefore, I don't have to hesitate.</i> <i>Me: What else?</i> <i>A child: All answers are acceptable, and no one will laugh is my favourite.</i>	Shy
			Hesitate
			Talk Loud
			Afraid
Benefits and Beliefs	Benefits that children with LD believe were most helpful in achieving a positive balance in their participation	Extract 4.8. The Ground Rules <i>Norah: Besides playing, what might help you to be comfortable?</i> <i>Jana: No one hurts anyone or makes jokes about each other.</i> <i>Nouf: Everyone can say anything, even the ones who have hesitated.</i> <i>Maryam: No one feels shy.</i>	Collaboration
			Freedom
			Powerful
			Training
			Talk Freely
			No Shyness
			Ground Rules

4.10. Key Elements of the Creative Drama Club from Iteration Two

The analysis of Phase One focused on the question, ‘How might the thinking skills of children with LD be enhanced through the use of creative drama?’ This phase included two different iterations, and both helped in exploring the design principles from an empirical standpoint. Despite that, the analysis was not final at this stage— just a further step toward the next phase of this project. After the discourse analysis of the focus group, its findings, alongside the thematic analysis of the full iteration, helped me to develop an understanding of the culture created by creative drama. It also allowed me not only to explore the design principles in a real context but to refine them iteratively during the cycles in order to have a clearer version of them. The general aim of this analytical section is to uncover clues about how the design principles helped create an environment where the thinking skills of children with LD might be enhanced through the use of creative drama. Therefore, I analysed cycles in which Norah talked about the design principles or the children referred to them through their words or actions. I also focused on the categories from Section 4.9.2, the features and the environment that established the use of creative drama as a medium for learning thinking skills.

Four categories of coding sets emerged across the thematic analysis of the data from Iteration Two. The first of these categories, criticism-free environment, was more developed than the others. It introduced the role of the design principles in supporting the thinking skills of children with LD. In contrast, the indicators category was abstractly defined at this stage. It showed how the children with LD demonstrated the stimulated thinking skills in this stage of the project. In the next sections, I will discuss consecutively all the categories and their clustered codes in detail. I will also exemplify how these codes constructed the category aligning with the main focus of this analysis; all categories and codes are presented in Table 4.11.

Table 4.11: Scheme of the main findings of Iteration Two from Phase One

Category	Codes	Sub-codes	Description of the category
Criticism-free Environment	Communication	Thoughts	A criticism-free environment where children could quite simply communicate their thoughts, attitudes, and emotions with no fear of being judged or criticised by their peers or the teacher.
		Physical	
		Socially	
	Ground rules		
	Storyland		
	Barriers	Shy	
		Hesitate	
		Talk Loud	
Talk Freely	Afraid		
	Express their feelings and opinions		
	Adding/Suggestion		
Leader role	Helping each other		
Democracy	Interrelationship	With leader	A system or culture was developed where all parties of the learning process during the creative drama session were free and equal and belonged to the created space.
		With peers	
	Ownership	We design and think	
		Asking questions	
		Talk freely	
		Evaluate	
	Awareness		
	Control		
Belonging			
Dynamic	Active thinking		The continuous change of the learning atmosphere, which kept thinking active and the created space full of life.
	Three Modalities	Voice	
		Body	
		Imagination	
	Collaborative work	Group size	
		Helping each other	
		Adding/suggestion	
	Prompts	Form	
Time			
Different level of participation	Vocabulary		
	Physical		
	Group Size		
	Sensory and imagination		
Indicators of Thinking	Behavioural	Helping each other	Children's responses during the activity, which might imply thinking skills.
		Looking for alternative	
		Support a point	
		Evaluate	
	Verbal	Use of language	
		Summarising	
Use of information			

Criticism-free environment

During the Creative Drama Club, both teachers mentioned that the children with LD's participation during the creative drama activity was different from usual. Moreover, the data revealed that there were several elements supporting that claim, which I clustered under the 'criticism-free environment' category. As shown in Table 4.11, there were several codes under this category; some of these codes came directly from the design principles (e.g., Storyland), while others were indirectly related to the principles (e.g., communication).

During the focus group, the children pointed out Storyland several times as something that helped them to be comfortable. Additionally, in Extract 4.7, Nouf argued that she never hesitated to participate because of Storyland's ground rules. However, although the imaginary place that we created, Storyland, played a big role in creating a supportive environment, the ground rules were what supported the children within this environment. Going back to the focus group (see Table 4.11), the barriers that the children mentioned were resolved through the ground rules. Another example:

***A child:** No one will be afraid to say something, even if they're not sure.*

No one will laugh, and you will listen to me even if I'm wrong.

***Reem:** Yes, and no one will remember the answer because it's right.*

(Focus Group, Iteration Two)

Additionally, the children indirectly showed their awareness of the power of the ground rules. For example, several times, the children added a new rule or used the rules to justify their actions and support their arguments:

***Norah:** What was interesting is there were some new rules that they added today, such as don't lie, don't use any rude words. I think they were applying the rules that they might need at that time.*

(Reflection Conversation, Cycle 4, Iteration Two)

As a result of establishing the ground rules of Storyland, trust was established between the children and the teacher. Therefore, a culture was created where all participants could freely talk and express their opinion with no concerns. Thus, the code 'talk freely' emerged under this category. 'Talk freely' refers to the situation where the participants were expressing an

emotional experience; it also refers to a situation where the children were adding, suggesting, or amending any element of the session. Finally, ‘talk freely’ as a code refers to any situation where the children were ‘orally’ helping each other. From the previous explanation, I concluded that, at this stage, the code ‘talk freely’ might mean that the children have control over their voices and are free to use them the way that they feel is appropriate.

The leader roles played an important part in supporting a criticism-free environment. Through the creative drama process, the leader was able to stimulate the group from the inside, challenging the children’s abilities and supporting their involvement by creating a real-life situation. The leader’s role was part of all the codes included under this category. Thus, by the end of this phase, I realised that the leader’s role and the design principles, along with other features, helped to create a criticism-free environment where children could communicate their thoughts, attitudes, and emotions with no fear of being judged or criticised by their peers or the teacher.

Democracy

The term ‘democracy’ was first mentioned by Sarah during Iteration One when she reflected that it was one of the things that might be helping the children with LD to engage, participate, and think during their participation as members of the Creative Drama Club. In this iteration, Norah thought that the main reason creative drama might help the children with LD to participate and engage in all the activities was that they ‘belonged’ to the Creative Drama Club. Thus, if democracy is the system where all parties to the learning process during the creative drama session are free and equal, then belonging is a feeling that is co-constructed within by that system.

***Norah:** Yes, that’s right, but what I liked more is how they belong to the Storyland, especially when Lama told you that ‘we are the only group who knows about it; for that reason, the letter must be addressed to us.’*

***Me:** Although you think that they have built a relationship with the imaginary Storyland?*

***Norah:** Of course, they did, and they love that place.*

(Reflection Conversation, Cycle 4, Iteration Two)

Besides ‘belonging’, two other codes were included within this category. First is ‘the interrelationship’, which refers to the relationship among the children and also between them and the creative drama leader. As mentioned in the previous section, the ground rules shaped most of the interaction during participation in creative drama sessions, not only by clarifying their rights and responsibilities but also by helping them to bond and have a trusting relationship. For example, during the commercial break activity in Cycle 2, the children offered to help each other during their presentation without feeling competitive or threatened by the other group. Additionally, the teacher–student relationship here is distinct from the traditional form of learning in terms of roles, interactions, positions, and levels of power. Norah mentioned how the relationship between her and one of her students changed after Creative Drama Club:

Norah: You know, Arwa, that Nouf changed with me. She broke all the boundaries between us after the drama club. She never complains or asks for anything. It’s been a year since we started working together, and today is the first time that she felt comfortable and trusted me enough to complain about something. You know what, even her voice is louder right now.

(Reflection Conversation, Iteration Two)

She also pointed out that

Norah: As I said, the idea of being comfortable helped them to feel safe—safe in the place and comfortable even with me as a teacher. I’m not the one who is giving them orders or commanding them and making them afraid to upset me as a teacher.

(Reflection Conversation, Iteration Two)

The second code is ‘ownership’, which can be defined as the children’s contributions to the learning process. It is the control and the power that the children had over their learning process. When I asked the children about the Creative Drama Club, one of the distinctive answers came from Maryam when she said, ‘because we design everything and think of everything’. Maryam referred to the form of activity where the leader just provides them with the overarching idea and the structure and they are free to generate ideas, design their outcomes, refine them together, then share them. The data also showed that the children were aware of their responsibility for what they did during the activity and how the consequences of their

actions influenced the output of any activity. Thus, they were asking questions such as ‘what if...’ and ‘how might...’, which helped them to clarify or evaluate a specific situation.

Extract 4.9. An Evaluation

Jana: On the beach! No, what if that was an aqua-theme park?

Me: That’s a cool one. Think together to decide.

A child: Let’s think about the role-play?

A child: How we will think of that before we make a decision about the topic!

Maryam: What if we change it to a zoo?

A child: Why the zoo? The aqua is more fun, guys.

Maryam: It is easier than the water. We can do it together.

(The Session, Cycle 2, Iteration Two)

Democracy at this stage helped the children to belong, to invest in their learning process and take responsibility. In other words, it provided them with a chance to control their learning process by making decisions, evaluating the situation, and finally supporting those decisions by owning them.

Dynamic environment

‘Dynamic environment’ refers to the continuous change of the learning atmosphere. The design principles aimed to gradually expose the participants to the creative drama activity. Implementing creative drama as a medium also involved the use of the three tools of creative drama: voice, body, and imagination. Leading a session using these tools meant that the participants were expressing themselves and communicating their thoughts using three different modalities. Their participation could take on a verbal, physical, or listening form. Thus, the children always did something different, which might have helped them to stay alert and open to practising more challenging activities where they might use higher-level thinking. This is one way that creative drama created a dynamic environment.

The other way this dynamic environment was created was via the nature of the collaboration, where all participants were involved in the learning process. Norah mentioned that being part of the activity provided the children with control over their participation. Thus, they all felt, no matter the group size or the type of activity, that they were members of the

same space. During the narrative story strategy in Cycle 3, I observed the children helping each other by pointing out significant features of the chosen animals so their friends could keep improvising and narrating their parts of the story. From that, I might argue that working collaboratively during the creative drama sessions increased the level of responsibility toward the learning process among the participants. Additionally, there was always something different in every session, and the children were constantly aware of the time of each section and what would change in terms of an activity's level, group size, and thinking skills focus.

'Prompts' was not only a code but a part of the design principles that the session leader had to think carefully about during the planning stage. Until this point in the research, there were two main elements of the prompting procedure that might be explored in detail in the following stage: the prompt's type (i.e., verbal or object) and the prompt's time (i.e., before or during the activity). Both elements seemed to play a significant role in keeping the 'thinking active', as Norah described it. However, part of the leader's role was to encourage the participants to engage with all the opportunities they were provided during the session, which is why the leader needed the prompts. Adapting to change and keeping the participants' involvement going could be achieved through prompting in a way that provoked and encouraged the children to participate. It could also be done by providing the children with help to prompt each other as in the example mentioned above. Thus, the dynamic environment created by the nature of creative drama, alongside the collaboration of all participants. Judith has comment I need to ask about it

Indicators of thinking

Children were seen to be generating ideas, thinking about their actions, working collaboratively, and taking ownership in the evaluation of thoughts. Children responded in different forms, which the data revealed could be divided in two categories: behaviourally and verbally. I categorised these two forms as indicators of thinking. However, at this stage of findings, these indications were not considered final but indication of how children might

demonstrate thinking skills within creative drama as a learning medium. Moreover, both types of indicator were grounded in the empirical data, from Iteration Two particularly. Some of the codes under this category were already discussed in the sections above, such as responsibility and helping each other.

What was interesting here is how the children in some situations tried to look for alternatives. This behaviour indicated the children's awareness of their limitations and that they were thinking of other possibilities that might help them to achieve the task. Besides that, the children adapted the evaluation skill through the activities of creative drama, which might indicate that they had their own interpretation of their work and valued some of its aspects. Additionally, the data show that the children's evaluation of their work was developed throughout their participation in different activities.

The other form of indicators is the verbal one. It basically refers to all verbal forms, such as use of language, communication, summarising, and sharing information. Norah and Sarah both agreed that creative drama might not only help the children practise their thinking skills but also help to enhance their communication skills. However, this indicated that the children's use of language changed through their participation in creative drama sessions. For example, when Maryam described her role as a member, she used the words 'design' and 'think', which indicate the child's understanding of the challenge that they faced during the activity. Another interesting use of language is how the children summarised their work from a different perspective. For example, during the last session, where the task was to provide the architect with all the information that he might need, we gave each group a mind map to cover what might be important. One of the points was that the work would take two months and be unpaid. One of the groups pointed that out under two different categories (duration and important points). When Norah asked them why they wrote that down twice, they justified it by saying that a worker has to know that he or she will not earn any money for two months. Thus, it was important to highlight that and make sure that the architect and his group were

aware of this point. Having all these indicators in mind might help to gain a deeper understanding of the children's participation in Phase Two.

4.11. Summary of Iteration Two

In Section 4.9, I have focused on providing a detailed description of Iteration Two from Phase One. I started the chapter with the main design principles and how they were revised before conducting this iteration. I suggested that at this stage, the changes might be considered as an amendment to the principles, and the revision after this iteration would be where I gained a more insightful empirical perspective. Following that, I provided the main characteristics of this iteration, starting with the school in the introduction, going on to the four cycles of this iteration, and finally highlighting the focus group and its findings. After that, I paid attention to the categories that were revealed by the data and might have affected the thinking skills of the children with LD during their participation as members of the Creative Drama Club. To conclude this phase, that creative drama as a medium of learning created a unique learning environment. Starting with what was concluded from the first iteration, inclusiveness raised the level of control among the children with regard to their learning process, which helped form a collaborative relationship among all parties. By collaborative work I here mean the kind of work that everyone is responsible for, no matter the size of the group. Additionally, introducing the children to different group sizes helped them to learn that it was all a team effort and that helping each other is powerful. All these findings, along with those from the next iteration, will be discussed in detail to answer the research question in Section 4.18 and Section 4.19.

4.12. Introduction of Phase Two

This design-based research (DBR) project had two phases (see Figure 4.1). In Sections 4.4 and 4.9, I provided a detailed overview of Phase One and the procedural approach to data collection in both iterations. Moreover, I presented the analytical findings of each iteration in relation to the design principles of this DBR. One of the most important findings of Phase One was that through their participation children established evidence of the roles of the design principles. In Phase One, the data provided evidence about how the design principles helped in creating an inclusive learning environment that supported constructing and articulating thinking skills through creative drama activities.

Moreover, another finding revealed that through the creative drama activity, the children demonstrated some of the thinking skills for which the creative drama sessions were designed. Although the understanding of the thinking indicators was not advanced at this stage of the project, along with other findings, (1) they helped me to reach the understanding that I could not claim that thinking skills were enhanced or not without measuring these skills. Thus, the current phase of this DBR was guided by the question, ‘How can the thinking skills of children with LD be **enhanced** through the use of creative drama?’ (2) The sessions during the cycles of Iteration Two focused on thinking ‘type’ instead of a specific thinking skill because the overlap between thinking skills also appeared among the indicators of thinking. What’s more, the culture that creative drama established in Phase One was flexible and open to adapting to any change, which made it hard to target particular skills in a session.

In this chapter, I will present a detailed description and analysis of Phase Two of this DBR. The design principles on which the sessions were planned and led were revised based on these findings. As in the previous iteration, in Section 4.13, I will start by comparing the design principles between the two phases and illustrating the logic behind these changes. This will be followed by a description of the only iteration of Phase Two, including the cycles and the focus group. After that, I will discuss the key characteristics of the Creative Drama Club as enacted

in this particular iteration of this project, explaining these characteristics by providing evidence from the data to support the argument. Finally, I will finish this chapter with a summary of the key elements of this iteration in relation to the design principles.

4.13. The revised design principles

Starting with the research question, as mentioned in Section 4.5, the enhancement was difficult to determine due to the complexity of the factors involved in the learning culture (see Section 4.5 for more details). I was interested in investigating the whole learning culture and not limiting myself to the enhancement itself. Therefore, the first decision that I made at this stage of the research was to change the terminology of the research question and use the word ‘foster’ instead of ‘enhance’. The research question that guided Phase Two was then *‘How can the thinking skills of children with LD be **fostered** through the use of creative drama?’*

One of the most important aims of the design principles in this DBR was providing guidance for using creative drama to foster thinking skills of children, in particular those with LD. Therefore, as explained in Section 4.8, a series of iterative amendments of these principles took place during the data collection period that were aimed at improving the design principles to achieve that goal. However, upon the completion of Phase One, revisions were made across all three main aspect of the design principles. In general, there were three major changes to the design principles for Phase Two. This section aims to discuss these three changes analytically, following the major aspects of the original design principles.

Table 4.12: A matrix of the changes to the planning for creative drama session aspect between phases

The Design Principles	
PHASE ONE	PHASE TWO
Planning for creative drama session	
<ul style="list-style-type: none"> • In each session, the creative drama elements (warm-up, main activity, closing-up) should be included. • There should be a form of physical involvement in each phase of the session. • Each session focuses on one of the thinking skills (based on Mosley et al.’s 2005 framework) in terms of planning only, not reflection. • Each session has to follow a theme, and the objective of that session will be based on the selected theme. 	<ul style="list-style-type: none"> • All elements of a creative drama session must work together to achieve the same goal as if it were one unit. • Physical involvement might be in one or more phases, but it is not a must for all phases. • Each session focuses on a type of thinking (e.g., critical thinking, creative thinking) instead of particular skills (e.g., information gathering). • Besides the theme, the session has to include a puzzle to provoke the children’s thinking.

The first aspect of the design principles is planning for the creative drama session. It aimed to craft the session plan's components (i.e., activity, theme, and focus) in order to achieve the goal behind the planned session. As shown in Table 4.12, there were several changes to this category, two of which were related to thinking skills in particular. In Phase One, each session had a theme, an objective, and a focus on precise thinking skills, whereas the sessions in Phase Two were focused on a type of thinking skills (e.g., reflective thinking or creative thinking). Also, each session had to include a puzzle or a problem to provoke thinking and to encourage the children to learn and practise the targeted thinking type. To illustrate further, in the previous chapter, Section 4.9.1 (Cycle 3), the activity was the 'Commercial Break', and the thinking skills focus was on cognitive thinking skills (i.e., knowledge, comprehension, and application). However, rather than identifying the provided resources, the children talked about making a decision and prioritising the responsibilities of the task in order to achieve it, which might indicate reasonable thinking, criticality, or even the first step of creativity. This example and several across the data from Phase One showed that it was hard to focus on a particular skill or even delineate thinking types precisely. Therefore, shifting the focus to more general thinking types was one of the changes within this phase.

In relation to the need for a puzzle or problem to be solved, Jeffery and Craft (2003) argued that having a problem to solve is a way of teaching creativity. From the analysis of the previous phase, I realized that the session that included some mystery was more interesting to the children than the others, which supports Craft's argument. Additionally, there were some refinements within the principles under 'creating a safe and supportive environment' for two reasons: (1) to explore whether the use of materials and aids would have any impact on the children's participation and (2) to get a deeper understanding of how the ground rules helped create the dynamic and inclusive environment that I discussed in the findings of Phase One.

Table 4.13: A matrix of the changes to the creating a safe and supportive environment aspect between phases

The Design Principles	
PHASE ONE	PHASE TWO
Creating a safe and supportive environment	
<ul style="list-style-type: none"> • Each session has to start by going to the imaginary land called Storyland, where there are ground rules. • Each session has its own materials and needs; thus, the layout of the room has to be organised carefully before the session. • Participants have to be gradually exposed to the creative drama activity while they are participating. 	<ul style="list-style-type: none"> • Repeat the ground rules of Storyland if needed. • Increase the use of materials to support the visual aids but not to the level where it becomes a distraction to the children.

Creating a safe and supportive environment is the second aspect of the design principles in this DBR. It aimed to establish a culture that provided every learner with the required support without special accommodation unless needed (e.g., by a learner with a physical impairment). As discussed before, the data from Phase One revealed that the enactment of creative drama created an inclusive learning environment where all the participants were involved in the learning process. Moreover, as discussed in Section 4.3.4 and Section 4.9.2, the imaginary Storyland and the ground rules played significant roles in establishing a reflexive culture to create an inclusive learning environment. The changes here were not major (Table 4.13), but because Norah talked about how the children changed (see Section 4.10: Democracy) and because the children referred to the ground rules, I decided that repeating the rules might help the children to maintain their participation.

Table 4.14: A matrix of the changes to the leading the creative drama session aspect between phases

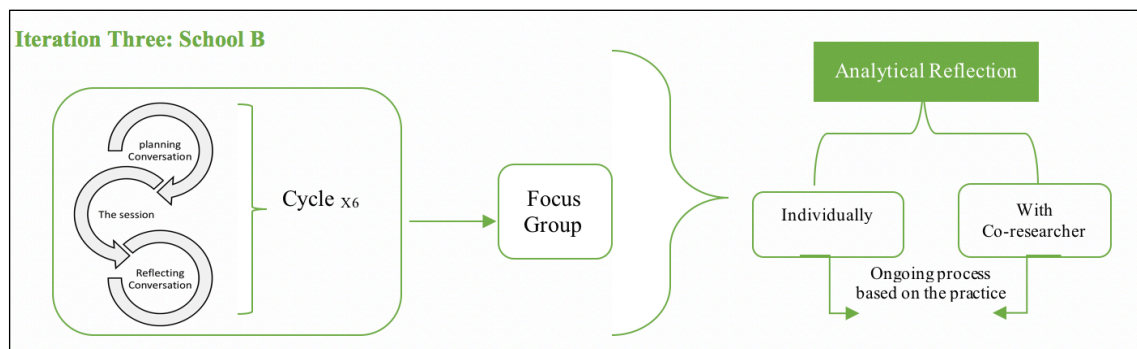
The Design Principles	
PHASE ONE	PHASE TWO
Leading the creative drama session	
<ul style="list-style-type: none"> • Open a dialogue and make participants aware of the possibilities they can achieve through their collaboration. • Prompt the children and encourage them to talk more to each other. • Invite different levels of participation by providing the participants with a chance to work in a small group, in pairs, or as a whole group based on their varying levels of learning abilities, motives, and interests. • The activity leader has to participate and engage in the activity if needed (e.g., if one of the children has no partner or is playing a character). • Establish a rhythm for the creative drama session—a stable tone in the instruction is useful for maintaining a level of organisation. • Each activity in the session should have instructions, and the instructions must be clear (repeat the activities' instructions if needed). • Focus on thinking skills rather than attempting to determine their expectations and creativity. • Encourage the participants to think and practise their thinking skills by creating events, situations, and prompts that enable them to discover new ways to think. 	<ul style="list-style-type: none"> • Prompting the children during the session does not only have to be done verbally: It might take different forms (e.g., visual or musical) depending on the situation. • The adult's role is to facilitate the activity instead of leading it (e.g., the facilitator is concerned with helping the children to think, to find a view, and to articulate it, and with doing the right thing and helping the children to finish the task). • The instruction of the activity might be divided into multiple steps in order to maintain the children's attention and to encourage them to keep going. • Encourage the participants to communicate, share, and engage with each other at different levels; this will be through both prompting and instructional approaches.

Finally, the changes under 'leading the creative drama session', which aimed to make democracy visible to all participants, including the creative drama leader. From the findings of Phase One, democracy played a role in creating a suitable environment for fostering thinking skills. Thus, the role of the adult had to change from leader to facilitator. This was not finalised as a finding at this stage yet, but in order to make democracy visible, there was a need to balance control of any activity among all parties of the learning process. Finally, to give the children more control over their learning, the instruction had to be delivered through steps or phases to give the children time to review and think. This would also provide the adult with the opportunity to engage more. This idea was driven by Session 3, in which the children were given the instructions gradually, and which the children referred to as their favourite.

As well as these three major changes, further amendments—such as the role of the adult within the group and the use of material—were not at this stage finalised as principles. Rather, they were just a refined version of what had been implemented in the previous phase.

4.14. Iteration Three

Figure 4.4. The data collection and analysis procedure of Iteration Three



This section mainly reports on the main characteristics of Iteration Three, the only iteration in Phase Two, which was conducted at the same primary school as Iteration Two of Phase One (School B) and with the same co-researcher (Norah). Not all of the children were able to participate during this iteration for several reasons, as previously discussed (see the methodology chapter). There were nine children between seven and 11 years old (five of them with LD). This iteration was conducted over an eight-week period. As shown in Figure 4.4, it involved six cycles, followed by a focus group. As in previous iterations, each cycle involved three sequential steps: planning, implementing the session, and reflection.

Before starting this iteration, there was another introductory meeting with Norah. The meeting aimed to explain the changes across this iteration in relation to the design principles (as discussed in Section 4.13) and covered the ethical and practical aspects of conducting this iteration (i.e., contacting the parents, the time and place of the session, and selecting themes). The following sections outline the cycles in detail; each section consists of a table that summarises all the main elements of each particular cycle followed by a brief summary.

4.14.1. Cycles

a) Cycle 1

Table 4.15: Summary of the main characteristics of Cycle 1

Theme	Helping others (The Snail and the Whale)	Objectives	Welcome the new members and introduce them to the Creative Drama Club.		Thinking Type Focus	Convergent or analytical thinking skills
Session Leaders	Norah Arwa	Duration	50 minutes	Attendees	9 children	
				Children with LD	Maryam, Nouf, Jana, Hind, and Sanna	
Creative Drama Activities		<p>Warm-up: What if you are a...? (the whole group—a modified version of the living picture)</p> <p>Main activity: Living picture (the whole group—improvisation strategies)</p> <p>Closing-up: Discuss and reflect on the experience (in pairs—whole group)</p>				
Changes for the Next Cycle		<ul style="list-style-type: none"> • Give the children more chance to talk. • Work in small groups or in pairs. 				

As shown in Table 4.15, this cycle was introductory, and the newcomers (Hind and Sanna) had the chance to become acquainted with the Creative Drama Club. For this reason, all the activities were designed to be undertaken as a whole group, and the participants were gradually introduced to the creative drama activities. The new children easily fitted into the group from the start. According to Norah, this might be because of the nature of creative drama and its ‘real-life’ action atmosphere (Reflection Conversation, Cycle 1, Iteration Three).

The original plan was to use the warm-up activity to help the children move around and acclimatise to the space around them so that, during the main activity, the children might be more willing to participate. However, the children led the main activity as more of a discussion involving less movement. The discussion was about who reported the whale to the fire department and why. The following extract is part of the discussion:

Extract 4.10 Firefighters

Maryam: I think the firefighters were not there from the beginning of the story.

Hind: Why? (She had previously suggested that the firefighters were on the beach to swim and enjoy their time.)

Maryam: Because they had their truck and equipment with them.

A child: That's right Maryam, why did they have their equipment if they were just swimming?

Me: That's interesting. But who called them? (After a moment of silence.)

Maryam: The family at the back is the one who made the call.

Me: Why?

Maryam: If you look at the picture, you will know that they are the first to be here. That makes them the first people who noticed the waves move hard and the changing of the water. So, they made the call.

(The Session, Cycle 1, Iteration Three).

Norah and I reflected upon this conversation: First, in relation to the targeted thinking type, the children collaboratively analysed the picture and drew a conclusion based on the facts and the shared knowledge; secondly, the facilitator (in this case, myself) played an important part in helping the children to collaboratively reach a conclusion through a dialogical approach, enabling them to share and communicate their thinking.

b) Cycle 2

Table 4.16: Summary of the main characteristics of Cycle 2

Theme	Family	Objective	Provide the children with the opportunity to talk about their families.	Thinking Type Focus	Creative thinking and critical thinking
Session Leaders	Norah Arwa	Duration	50 minutes	Attendees	9 children
				Children with LD	Maryam, Jana, Nouf, Hind, Reem, and Sanna
Creative Drama Activities	<p>Warm-up: Wordless (whole group) Still images (small groups)</p> <p>Main activity: What if you... (individual and whole group)</p> <p>Closing-up: Whoosh story.</p>				
Changes for the Next Cycle	<ul style="list-style-type: none"> • Closing-up (reflecting). • Allow more time for imagination. • Do not direct the children to the main objective; let them decide the direction of a session's outcome or conclusion. 				

The second cycle focused on critical and creative thinking. Unfortunately, there was an interruption during the session because there were slight changes to the timetable that affected the children's time in the Creative Drama Club, and not all of the children were able to attend the full 50 minutes. Thus, when everyone was in the room, we only carried out the main activity. The children picked a picture of Cinderella to consider the question, 'What if they

were in the picture?’ The children debated the relationship between Cinderella and her stepmother and stepsisters. There was a question as to whether they were ‘really’ related or not. According to Maryam, ‘they are evil’ and not related, while Reem thought that ‘nevertheless, they do live together in the same house’. The children concluded the argument by agreeing that they were indeed related, but that they did not deserve Cinderella as a stepsister.

During the main activity (improvisation time), the children were exposed to the characters’ feelings and perspectives. They were able to step away from their own points of view about Cinderella’s family and to express the characters’ emotions as shown in the picture. Reflecting on that, Norah thought that the discussion before the activity helped the children to realise the difference between what they initially thought and what the original story was about.

c) Cycle 3

Table 4.17: Summary of the main characteristics of Cycle 3

Theme	Friendship	Objective	Explore the children’s perspectives on the meaning of friendship	Thinking Type Focus	Creative thinking
Session Leaders	Norah Arwa	Duration	40 minutes	Attendees	8 children
				Children with LD	Sanna, Reem, Maryam, and Hind
Creative Drama Activities	<p>Warm-up: What if... (individually)</p> <p>Main activity: Object-theatre (whole group)</p> <p>Closing-up: Reflecting upon the main activity (in pairs—whole group)</p>				
Changes for the Next Cycle	<ul style="list-style-type: none"> • Provide the children with more time to try before starting the main session. • Use the theatre, an object, or any other strategy that provides the same level of control to the children. • The creative drama leader might not take part in the theatre next time, giving the children more control. • The closing-up might be presenting the final version of the story or the play after reflecting on it. 				

In Cycle 3, the focus was again on fostering creative thinking and creativity. We planned to achieve that by giving the children more control over their actions during the session and by providing more opportunities for improvisation compared to the previous sessions. However, both giving control and adding more time for improvisation were time-consuming, and these turned out to be the main weaknesses of this cycle. As the session was only 40 minutes long, we lacked the time for the warm-up activity, in which the children were supposed to build their characters' personalities, which means that the children had little time to practise.

Despite the lack of time, the children were able to imagine a scene, narrate and improvise a story, and play the roles of their characters. This might be because the object-theatre, as we implemented it, provided a real-life context. This is what Norah thought of the object-theatre activity:

I think the children need more time to practise the last session. However, they're able to imagine and play because it's similar to their own usual way of playing. I don't know, I felt that they were pretty much just normally playing roles.

(Reflection conversation, Cycle 3, Iteration Three)

During the closing activity, we discussed the experience of being an object. Most of the children articulated their responses around emotions. For example, some of them talked about their feelings as an object: 'I felt powerful as a witch' and 'I'm a fast car—none of you can catch me'. Others expressed their feelings about the activity: 'I liked the animal session more than this one; it was more fun'. Interestingly, Hind mentioned she felt 'shy' because I was part of the play. Thus, we aimed to limit the engagement of the activity's leader during the coming sessions.

d) Cycle 4

Table 4.18: Summary of the main characteristics of Cycle 4

Theme	Animals	Objective	Introducing the children to a sequential thinking process where they will all be gradually led to collaboratively produce a play.		Thinking Type Focus	Reflective thinking Creative thinking
Session Leaders	Norah Arwa	Duration	50 minutes	Materials	<ul style="list-style-type: none"> • Sounds effects (forest) • Animal puppets • Puppet theatre 	
		Attendees	6 children	Children with LD	Jana, Nouf, Hind, and Sanna	
Creative Drama Activities		<p>Warm-up: How would you move or speak if you were a...? (individually—the whole group)</p> <p>Main activity: Puppet theatre (the whole group—improvisation strategies)</p> <p>Closing-up: Showtime (the whole group)</p>				
Changes for the Next Cycle		<ul style="list-style-type: none"> • Re-apply the steps but through a different approach. • Use more complicated materials. • Add more time for the refining and reflecting steps. • No adult participation during the main activity (only facilitating). 				

This cycle contained many changes in terms of planning and conducting the session. With both the design principles and the attempted changes from the previous session in mind, we planned this session to be implemented in a number of thinking-related stages. Rather than the three phases of a creative drama session (warm-up, main activity, and closing-up), the steps were more like a thinking process where all participants engaged to reach the desired conclusion, which in this session was to produce a play. Because of Hind’s feeling ‘shy’ as a consequence of my engagement in the play, one of the main changes in this cycle was how the activity leader participated with the children: it was carried out indirectly by using one of the puppets as a guest of honour.

The steps started by investigating the relationships between the characters and by outlining several ideas about what the story might be about. Then, we improvised each character’s lines and narrated the full story, followed by the enactment of the full play. Moreover, we designated time for reflecting upon and refining the steps before moving to the following one. During this time, the pupils had many arguments (e.g., where to stand and why)

and discussions, mainly about the conclusion (e.g., how they could become friends with the lion). The children’s solution to that dilemma was that as animals they all would be friends because they all needed each other. This friendship needed ‘rules’, as they said, which were that the lion had to be fed only when it was really starving, and it was not allowed to be one of them. This session provided indications of many thinking skills, for example, the condition that they made to include the lion in the group. Additionally, for the first time, the children used different tones of voice during their enactment. By that, I mean the children tried to synthesise the story that they created with the real world. Thus, they used animal sounds, they showed the emotions through their voices, and finally, the end of the play surprisingly was presented through a song that they had created during the session.

e) Cycle 5

Table 4.19: Summary of the main characteristics of Cycle 5

Theme	N/A	Objective/s	N/A	Thinking Type Focus	Critical and creative thinking
Session’s Leaders	Norah Arwa	Duration	50 minutes	Materials	<ul style="list-style-type: none"> • Three boxes—each one contains different items (i.e., household toys and school materials) • A concept map on size A3 paper • List of instructions written down on the whiteboard
		Attendees	8 children	Children with LD	Jana, Nouf, Hind, Maryam, and Sanna
Creative Drama Activities		<p>Warm-up: Mirrors (pairs)</p> <p>Main activity: What inside the box? (the whole group—improvisation strategies)</p> <p>Closing-up: Complete the concept map (the whole group)</p>			
Changes for the Next Cycle		<ul style="list-style-type: none"> • Use different types of material (for example, a picture). • Empower the children more by giving them more control over their learning. 			

In this cycle, we focused on understanding what the children might master from the previous two sessions when we started limiting the facilitator’s engagement and allowed the use of more materials during the session. Thus, there was no predetermined theme, but there

were three possibilities based on the boxes' items. After the warm-up activity, the children were informed that there was a slight change during this session, as they were to be in full control of their performance. Our facilitation was intended to be limited to 1) managing the time, 2) the refining and reflecting steps, and 3) anyone from the group asking for it.

Briefly, the main activity involved picking one of the boxes, then analysing its items, and finally creating a story based on these items to complete a concept map. The selected box contained some toys in the shape of living-room furniture, a vacuum cleaner, and some household items; it also had two finger puppets (a giraffe and a frog). The initial conversation between the children was about the toys and how they could use them to represent a real house. Then, Nouf asked, 'What about the puppets? They are not pets and can't live in a house.' The children responded differently to Nouf's question; for example, one of the children suggested that they did not have to use these two items at all, and Maryam suggested that 'they might be used as decoration for the living room'. It is important to point out that our participation was not limited to what was mentioned above, as both of us had to direct the conversation several times when the conversation took a different direction.

f) Cycle 6

Table 4.20: Summary of the main characteristics of Cycle 6

Theme	Good and bad morals (The Boy Who Cried Wolf)	Objectives	Understanding the power of honesty. The conclusion was to be achieved through critiquing the character.		Thinking Type Focus	Critical thinking
Session's Leaders	Norah Arwa	Duration	60 minutes	Materials	<ul style="list-style-type: none"> An envelope contains a letter and wordless cards. A sheet of A3 paper and pens. 	
		Attendees	7 children	Children with LD	Jana, Nouf, Hind, and Sanna	
Creative Drama Activities		<p>Warm-up: Hot-seat activity (the whole group)</p> <p>Main activity: Wordless card (the whole group)</p> <p>Closing-up: Presenting the reached conclusion (the whole group)</p>				

In the final cycle, we tried to implement all the principles and main aspects that we thought might help the children to practise their thinking skills at this stage. The main activity introduced a puzzle to the children through wordless cards that had to be solved. They had the chance to reveal some of the character's aspects through the hot-seat activity. They were allowed to ask any question about the character but not the story. However, before performing the main character, the children were provided with an opportunity to try the hot-seat technique with a random character. After the warm-up, they recalled the information that they had gathered through the questioning. Then, they started looking at the cards to understand the link between them.

Extract 4.11 Asking for Help

A child: Layout all the cards so we can compare them.

Nouf: Miss, are the cards showing a full story?

Me: I'm not sure. (Paused for a few seconds.) Think together to figure it out.

Jana: Look, there are sheep in this one where here there are not.

A child: Yes, this one has sheep on it too.

Nouf: We have to order the pictures to understand.

Hind: Yes, let's look at all the pictures first.

Jana: There are some with sheep and others without.

A child: I guess he is a shepherd. He told us that his best friend is his sheep.

Nouf: A shepherd who lost his sheep because the gate is open here.

A child: There is a missing card.

Nouf: No, look at the places they are not the same.

Norah: Besides the places, think of what might show the difference between the cards. For example, the characters and the time on the card.

(Session, Cycle 6, Iteration Three)

The children ordered the cards chronologically, followed by a discussion about how to present the full story. They had two suggestions: either through a linear chronological order or as a concept map. The children decided to ask for help in writing down the details because the time was about to finish. Norah thought that the children's asking for help was a result of their training during the Creative Drama Club, especially since Nouf was the one who suggested it:

'... Because it came from Nouf. She never complains, and whenever she struggles with something, she usually just quits. Whereas, since we started the third iteration, she changed even during our 1-2-1 session....'

(Reflecting-conversation, Cycle 6, Iteration Three).

4.14.2. Focus Group

The focus group conducted at the end of this iteration aimed to draw upon the children's reflections on the whole experience. A key element within this particular focus group was that it was guided by the children, not by pre-planned themes in which children were supported by adult supervision. There was an underlying rationale for having the children lead the discussion in this focus group. For one, talking freely, as discussed in Section 4.10, provided the children with control over their shared knowledge. Indeed, they mentioned talking freely as a powerful aspect of creative drama. Additionally, empowering the children with no limitations or boundaries might elicit more reflection on an experience than restricting them to a particular theme. Finally, the children might be more open and willing to give their opinions and share their perspectives if they could decide what they wanted to talk about.

The inquiry was initially guided by the following opening question: 'What is the story of your experience within the Creative Drama Club?' As in the previous two iterations, the analysis of this focus group was driven by discourse analysis theory. I tried to connect the children's contributions during this focus group and their discourses (i.e., action and language) during the current iteration with the design principles that guided Phase Two. Moreover, during the analysis, I particularly focused on contributions that might help and support the children to think together and work collaboratively. As discussed in Section 4.9. and Section 4.10, making democracy visible to the participants was identified as one of the key aspects by which creative drama helped the children to think and work together. The data from this focus group revealed that democracy might allow children to cautiously build upon each other's work, talk, or thoughts. In addition, it can be evidenced by several thinking skills—for example, sharing

information, reasoning, and reaching a conclusion. In addition, linking the children's discourses during participations helped me to go beyond democracy and criticality: The data indicated that there were three main features (see Table 8.10) that helped foster the children's thinking skills within the creative drama activities in Iteration Two. I will refer to these features in the following section and discuss them in depth later in Chapter 9. They are as follows:

- *Feature 1: Different forms of freedom: speaking, physical, and emotional.*

The term 'free' indicates the children's referring to different actions or situations where they experienced freedom (see Extract 4.12). The design principles, particularly the ground rules, helped demonstrate these forms of freedom as implied by the children because they allowed them to participate voluntarily and assured them that any contribution was acceptable. Additionally, the children spotted physical involvement as a significant element from an early stage. The difference in Phase Two was that even if the activity did not include physical action, the children had the choice to include it.

- *Feature 2: Collaborative culture where all work together to achieve a shared goal.*

In Phase One, one of the forms of participation that was discussed was collaboration. However, in this phase, participation took not only different forms but also different meanings. For example, in Extract 4.13, the vocabulary the children used shows that they developed an understanding of the power of working as one unit, using their strengths to achieve any given task. This feature refers to a collaborative culture that was established by creative drama and the participants' (children's and teacher's) awareness of their responsibilities in it.

- *Feature 3: Participants' agency: the adults' role and the actions that children took to affect the outcomes.*

Based on feature 1 and feature 2, the children's and the leader's stances within the creative drama went in different directions. This feature refers to the connection between the activity leader and the children's actions during the activity. One of the main findings of this phase is the adults' role during the activity (see Section 4.15: The Facilitator Role) and how that role empowers the children by giving them control over their learning process. It also refers to the children's consciousness of that control and how they showed it in action (e.g., looking for an alternative or refining the work).

Table 4.21: Scheme of categories and codes from the focus group from Iteration Three

Category	Definition	Examples	Codes
Free	A level of freedom; all the situations that the children described as 'being free'.	Extract 4.12 <i>Nouf: In the classroom, we can't talk or walk like here.</i> <i>Jana: And we have to finish the worksheet.</i> <i>A child: We love the drama club; we can pick a specific activity.</i>	Talk freely
			Pressure-free
			Criticism-free
			Move freely
Together	Working as a unit where the children could think, work, and build upon each other with a level of criticality and awareness.	Extract 4.13 <i>Me: How did you decide that the envelope did not contain that much information?</i> <i>A child: We looked over all the pictures and talked.</i> <i>Maryam: Used our minds.</i> <i>Me: How did you do that?</i> <i>Nouf: Miss, we displayed the picture and talked about it. Then... (paused for few seconds).</i> <i>A child: Then we compared the pictures.</i> <i>Nouf: Yes, after that we thought together to order it correctly.</i>	Think together
			Help each other
			Support each other's actions
Having a Choice	The awareness of control over the reachable conclusion of a given task.	Extract 4.14 <i>Me: Why do you love it?</i> <i>Nouf: We play all the time</i> <i>Maryam: We use our minds.</i> <i>Hind: Play a lot.</i> <i>Me: What do you mean by using your mind?</i> <i>A child: 'Everything's right'; we can do and say whatever we think works; then we may change it together.</i>	Use our minds
			Change or redo
			Suggest or add
			Alternative

4.15. The creation of a dynamic and inclusive learning environment

Although the analysis of this iteration focused on the design principles at this stage, I also focused on thinking types and skills that the sessions of this iteration targeted and how the children demonstrated these skills during their participation. This allowed me to understand how the design principles worked in a real context and helped me to have a clear version of the principles that might be able to inform further research. However, the main aim of this analytical section is to reveal clues about how these design principles articulated a dynamic

environment where children and children with LD practised thinking skills via creative drama activities and strategies. Therefore, I analysed the cycles of this iteration, in which the design principles were implemented and refined by Norah or by the children's contributions (directly or indirectly).

Dynamic, inclusive, and balanced in control is the way that I described the environment created by the implementation of creative drama in this current iteration. This conclusion drew upon four main categories that emerged across the thematic analysis of the data from Iteration Three. Three of these categories—free but well planned, facilitator's role, and learners' agency—are related to the design principles, whereas 'indicators of thinking' is a step further toward what this DBR aimed to understand, which I will discuss later in Section 4.19. Nonetheless, there is a connection among the four categories, which is what the following analytical sections aim to articulate.

Free-but Well Planned

Planning a session was an iterative process while collecting the data of the current research. However, the changes in the planning approach were based on critical reflection driven by practice. Moreover, I had the chance to examine the design principles under the planning for creative drama session category in a real context iteratively by implementing these principles, refining them, and reapplying them. Due to time constraints, there were only six planning and reflection conversations across Iteration Three, but they enabled me to develop an understanding of how the session plan helped create a learning context that fostered thinking skills. It also provided me with a cohesive perspective on how planning for a session goes beyond the activities and materials to foster the children's thinking skills through creative drama.

'Free but well planned' refers to the connection between the elements of a plan, the procedure of achieving a targeted goal of the session, and the possibilities of following the children lead to reach that goal. It also implies that the plan has to be clear in relation to the

overall objective and focus but flexible in relation to actions. The codes in Table 4.22 show the factors that created that plan. In Section 4.14.2, I discussed the form of freedom as a feature established by the enactment of creative drama in this iteration. However, to provide these forms of freedom, the planner has to think of all the details that relate to the activities, the children's abilities, their level of engagement, and the time. As I discussed before, having a problem to be solved and a unified element (warm-up, main activity, and closing-up) helped to provoke children's thinking.

Prompting is another code in Table 4.22. For example, clearly written directions are a direct prompt that the children are able to review when needed. In contrast, 'giving a hint' regarding a particular task is another form of prompting that might be expected within advanced activities such as improvisation (see cycles 4, 5, and 6). Above all that, the plan has to be simple in the provided materials, the theme that guides the session, and the objective. This simplicity is key to create the plan; it allows flexibility, offers improved safety for all participants, and promotes tolerance, which helped create the collaborative culture.

Facilitator's Role

'Through my work with you, I changed how I approach things with children.' This is how Norah described her experience as creative drama leader. The leader played a large role in achieving the goal of this project, even though that role changed through the iterative reflection through the cycle of Iteration Three. Norah claimed that our role during the session shifted from 'leader' to 'facilitator' in our ways of directing the children, helping them, and only interfering if necessary. Thus, this category, the facilitator's role, refers to the role of providing creative drama guidance concerned with helping participants not to 'do the right thing' but to think and communicate their thoughts and to help them find views and articulate them through practice. According to that definition, during creative drama sessions, there is no right or wrong thing to do; instead, they are about learning, constructing knowledge, and articulating some skills that the child might apply within a different context.

Table 4.22: Scheme of the main findings of Iteration Two from Phase One

Category	Codes	Sub-codes	Description of the Category
Free but Well Planned	Simple		The correlation between the elements of a plan and the procedure of achieving the targeted goal of the session
	Problem solving puzzle		
	All elements unified		
	Timing		
	Materials		
	Prompting idea		
Facilitator's Role	Time management		The creative drama guidance was concerned with helping participants not to do the right thing but to think and communicate thoughts
	Prompting	Direct	
		Indirect	
	Open	Acknowledgment	
		Flexible	
		Keep fluency of thought	
		Willing to play	
		Apply ground rules	
	Facilitator's agency	Keep thinking	
		Balance the learners' control	
Learn from participants			
Accept new ideas			
Learners' Agency	Ownership	Reflect	The children's capacity to take responsibility and control over their learning process
		Responsibilities	
	Choice	Leading the group	
		Having a voice	
	Child-centred	Think of alternatives	
		Trust each other	
Indicators of Thinking	Forms	Help each other	All words, actions, opinions, and thoughts in the children's discourses during creative drama sessions and the focus group
		Initiative	
	Behavioural changes	Verbally	
		Behaviourally	
		Leading	
		Stepping up	
	Transforming	Asking for help	
		Initiating	
Reflecting			
	Referring to a previous activity		
	Assessing the progress based on previous experience		

In Table 4.22, the codes show that the facilitator's role started from the planning of a session (i.e., time management), whereas other codes imply during the session (i.e., open). However, from my experience, particularly in Iteration Three, the bulk of this role took place during the session. When we started to increase the level of improvisation (i.e., Cycle 4), which obliged us to empower the children with more control over the activity, Norah thought that 'it [would] be hard to give full control to the girls' and 'the class [would] be a mess.' Thus, adopting an 'open' teaching personality was part of the role. By that, I mean the adult had to be flexible, willing to accept new ideas, and take part in the activity as a participant. That personality led to the facilitator's agency; this code refers to the facilitator's capacity to act purposefully and grow professionally from her experience during the session.

Learners' Agency

The children's ability to influence their own learning process during the activities of creative drama sessions is what this category aimed to discuss. According to the data from Iteration Three, the children's agency was grounded in three codes: ownership, choice, and the activities being child-centred. Providing these three elements increased the children's agency. As discussed above, shifting to an approach where children directed their own contributions during activities played an important role. The data also show that agency can be developed through time. For example, the children had choices during most of the activities (e.g., 'pick your favourite animal'), and they started 'thinking of alternatives' and discussing options amongst themselves during the last three cycles. This may be because the sessions during these particular cycles were based on improvisation. That is a possibility; however, one of the aims of this iteration was making democracy visible to all parties. Thus, improvisation increased ownership, which raised awareness of responsibility and made the need to discuss all options much clearer to participants.

Additionally, I noticed that the children's awareness of their agency in their learning appeared more during activities designed to be child-centred and in which the facilitator had a

limited role. For example, in Cycle 4 (the puppet theatre), the children were given the instructions only with no further influence unless they asked for it. They assigned responsibility based on their ability, narrated, rehearsed, then presented the final product. In contrast, in Cycle 2 (‘What if you...’), the children’s contributions relied on the facilitator (Norah) to assign parts and were limited to the previous discussion about the picture of Cinderella. All three elements—ownership, choice, and child-centred activity—worked together in practice, alongside what was discussed above, in order to create more agency and improve children’s outcomes.

4.16. Summary of Iteration Three

This iteration was the last empirical step of this DBR. It included six cycles conducted at School B with Norah as co-researcher. There were nine children between seven and 11 years old (five of them with LD). This iteration and its contributions sifted this design research and it was a step further toward answering the research question. Two main aspects changed during this iteration: the focus of the session to foster thinking skills and the facilitator’s role within the fostering procedure. During this iteration, I developed an understanding of how democracy might be part of a learning environment and how that might occur with a balance of control where all parties of the fostering process know their responsibilities in it. In the next chapter, I will discuss the findings of this phase and the previous one in more depth, guided by the question, ‘How can the thinking skills of children with LD be foster through the use of creative drama?’ and the following sub-questions:

- What kind of thinking skills are enhanced through the creative drama process?
- What are the indications/signs of thinking skills that are stimulated during the creative drama session? And how is this demonstrated in the behaviour of the children with LD?

4.17. Summary of overall findings

The design of this research project consisted of two separate phases flexibly guided by a set of design principles that were theoretically developed based on the existing literature. The procedural part of this DBR project revolved around these design principles in order to answer the research question ‘How can the thinking skills of children with LD be foster through the use of creative drama?’ Thus, to answer the ‘how’ and understand the relationships between all aspects of creative drama, thinking skills, children with LD and finally, the Saudi context, these principles were refined and revised throughout the project. Furthermore, the project design was flexible and adaptable to new aspects and views. Therefore, specific times were allocated for the refinement of design principles: Reflecting-Conversations and the gaps between iterations (see Sections 4.7 and 4.13 for more details regarding design principles). Although the design principles were flexible, refinement during the Reflecting-Conversation was practical, informed by the practice and directly related to a specific context (i.e. School A or School B). In contrast, refinement was more advanced between iterations in Phase One, between Phase One and Phase Two, and at the end of the project; further detail will be provided in Section 4.21

Iteration One of Phase One was guided by the preliminary version of the design principles. The findings of this iteration shed a light on the learning environment created by the use of creative drama. The findings suggest that there are three key elements within the collaborative culture of creative drama: First, all participants are introduced to different forms of participation, and levels of learning ability. The second element is the nature of relationships between participants: both children with LD and teachers emphasised how their roles changed during their participation and how those roles reflected on inter- and intra-relationships. The last element is democracy, as discussed in Section 4.10. Even though it was abstract as a finding at this stage, it might be seen as an alternative view of the collaborative culture that resulted from the first and the second elements.

Consequently, democracy and the collaborative culture of learning within creative drama were investigated further in Iteration Two. By the end of the analysis of Iteration Two, I was able to conclude that findings of this iteration, in general, highlighted the creation of an inclusive learning environment where all participants had a part in the learning process. In addition, the environment was dynamic, with a changeable atmosphere that intended to provoke the children to think. It was an environment built on trust because it was a criticism-free space that accepted all answers and considered all forms of participation. Furthermore, the analysis of Iteration Two suggested some verbal and behavioural indicators of thinking skills; these indicators were investigated more in Phase Two.

Phase Two began after five weeks of analysing and revising the design principles (see Section 4.13). Thus, Iteration Three was conducted based on an advanced version of the design principles. The findings of Phase Two suggested that the learning environment created by the creative drama is an inclusive and dynamic environment that is balanced and controlled by the culture established by the design principles. The role of the facilitator before and during the creative drama sessions was highlighted. The findings suggested that thinking skills via creative drama could be fostered if the facilitator followed a less-structured but well-planned session with a clear goal, and if both the plan and the facilitator were also adaptable at the same time to follow any direction. In addition, empowering the learners might be a way of fostering thinking skills. More details will be discussed in the following sections in order to answer the research questions more fully.

To sum up, Table 4.23 summarises the findings of each iteration of this DBR. It presents the features and the key elements of the Creative Drama Club as discussed by the children in each focus group and shows the characteristics of the created collaborative culture resulting from the use of creative drama.

Table 4.23. Summary of the findings of each iteration

Iteration	Features	Key Elements
One	<ol style="list-style-type: none">1. Different forms of participation: verbal, physical, or listening2. The ground rules of Storyland inherently allowed multiple levels of thinking, participation and collaboration	<ol style="list-style-type: none">1. Levels and forms of participation2. The direction of the relationships3. Democracy
Two	<ol style="list-style-type: none">1. Experience2. Characteristics3. Barriers4. Benefits and beliefs	<ol style="list-style-type: none">1. Criticism-free environment2. Democracy3. Dynamic environment4. Speculation of indicators of thinking
Three	<ol style="list-style-type: none">1. Different forms of freedom: speaking, physical and emotional2. Collaborative culture in which all work together to achieve a shared goal3. Participants' agency: the adults' roles and the actions that children took to affect the outcomes	<ol style="list-style-type: none">1. Free but well-planned2. Facilitator's role3. Learners' agency

4.18. What kind of thinking skills are enhanced through the use of creative drama activities?

Thinking skills are the core interest of this DBR, and the data revealed that creative drama helped in guiding and supporting the practice of thinking skills among the children with LD. All the activities were designed to fulfil this interest and were mainly focused on the children with LD. Moreover, the method of fostering thinking took different forms and changed during the iterative procedure of data collection. The main change was between the two phases of this design research: in Phase Two, the focus was broader than in Phase One in focusing on types of thinking instead of on particular thinking skills. There were two reasons behind this change. First, during the initial analysis, the data indicated that the children were practising more than the targeted thinking skills, as shown in Table 4.24.

Table 4.24. The difference between the targeted and the practised thinking skills in Phase One

Iteration	Cycle	The targeted thinking skills	The practised thinking skills in addition to the targeted skills
One	1	Information gathering Logic/reasoning	Imagination, creativity, reflection, criticality
	2	Core thinking skills Problem-solving Strategic thinking	Creativity, decision making, looking for an alternative
	3	Creative and critical thinking	Strategic thinking, reflection
Two	1	Information gathering reasoning	Reflecting, arguing
	2	Cognitive skills Creative skills	Criticality, problem-solving, strategic thinking
	3	Creative thinking Decision making	Criticality, reflecting, logic, reasoning
	4	Problem-solving	Strategic, systematic, reflecting and arguing

Second, within the created culture of creative drama, it was not possible to claim that the leader of the session was able to direct the children’s thinking or any other action. The creative drama activities were designed to require the children to think, to be creative, to communicate and collaboratively reach a conclusion. To illustrate these crucial two points, in Cycle 1, Iteration Two of Phase One, the targeted thinking skills were ‘information gathering’ and ‘reasoning’ (Table 4.6). Considering Extract 4.4 particularly, the children went beyond the targeted skills. Nora asked the children about their opinion of Anna’s engagement to Hans. That question aimed to see how the children could reasonably use their prior knowledge and the provided information. In contrast to our planning, the discourse showed that the children looked into the relationships and all the links between the provided information of the story. They analysed the whole situation (i.e. Anna’s engagement) and came up with a reasonable conclusion that considered all the discussed arguments. The children's' discourse indicated the children practised criticality, which is broader than reasoning as a thinking skill. To clarify, critical thinking requires reasoning and other skills such as categorising and evaluation (see

Chapter 2). This example emphasises the overlapping properties of thinking skills of learners in a learning environment created by creative drama.

Creative drama, as discussed in Section 4.5, created an inclusive environment where the learning process was everyone's responsibility. This environment implies that the child with LD has to be aware of his or her own ability along with the others' abilities. In addition, the ability to 'become aware' proposes the practice of metacognition. Swartz and Perkins (1989) defined metacognition as the individual's awareness of his or her own thinking process in order to control his or her thoughts. Moreover, if the created culture implies practising metacognition, then it could be argued that the children with LD collaboratively mastered lower-order thinking skills in order to collaboratively engage in higher-order thinking skills (See Section 2.7). To support this argument, going back to the discourse that was presented in Extract 4.13, Nouf and her friends consciously presented how they reached the decision. She elaborated what Maryam meant by listing the actions they took as a group, which are indicators for practising lower- and higher-order thinking skills. Referring to Bloom's Taxonomy (1956) and the children's used vocabulary, 'display and talk' implies that the children were looking into the provided information in order to understand the full story (lower-order thinking skills). On the other hand, 'compared' means that the children collaboratively analysed and evaluated the pictures in order to reach a conclusion (higher-order thinking skills). However, it is worth pointing out that I am not arguing that thinking skills are hierarchical or linear here; I am presenting the possible thinking skills practised by the children during their experience of creative drama. Further discussion of these ideas will be presented in the next chapter.

The practised thinking skills were not usually what were planned for or expected, thus, as mentioned before, Phase Two focused on more general types of thinking skills to provide more and broader possibilities for the children. Over the six cycles, there were different forms and types of thinking (e.g. Creative Thinking and Reflective Thinking) and the data showed verbal and behavioural indicators for the targeted types. The data also showed indicators for

‘reflective thinking’, which had not been targeted during this DBR project. Reflexivity is a methodological concept that refers to the researcher’s process of reflecting on himself or herself in order to provide more effective analysis. However, in this situation reflexivity is much broader, as it implies circular actions of an individual in order to control learning. According to Dewey (1933), it is an active process of analysing, judging and carefully considering knowledge. This type or form of thinking appears from the early stage of this project. For example, during the session of Cycle 3, Iteration One, Phase One, the children were asked to give feedback on each other’s commercials. The children actively reviewed and reflected on their own commercials and suggested developed versions of their commercials. Another example of how the children actively reflected on their learning happened during Cycle 4 of Iteration Three. The children noticed the resemblance between the provided puppets (i.e. animals) and the entire improvisation activity and narrating activity from Cycle 3 of Iteration Two. Thus, during their preparation, they referred to their previous experience and used the same technique to improvise their stories. It is worth pointing out that the children were not supplied with any leading instruction; they used their prior experiences and revised it to suit the new situation. Reflexivity is related to the individual level more than the group work shown in as the previous two examples. For example, in Norah’s reflection (Section 4.10) on how the children’s personalities changed, and they transferred some of the skills to their 1-2-1 sessions. Reflexivity may be part of agency (discussed in Section 4.15). Additionally, practising reflexivity may be a result of adapting a less structured learning environment in which children with LD felt safe and able to correct their mistakes without being criticised.

Despite thinking skills are a fundamental tool for effective thinking (Beyer, 2008), it is a complex phenomenon to investigate. Given the above, it was hard to determine the type of thinking skills that were fostered especially, without adopting any form of measurement. However, the findings of this research shine light on some of the practical strategies that were investigated and affirmed by researchers and educators, such as thinking aloud (Hofer, 2004)

and direct an explicit instruction in thinking skills (Orr & Klein, 1991). More details about these strategies will be discussed in the next paragraph.

4.19. What are the indications of thinking skills that are stimulated during the creative drama activities and how are these demonstrated in the behaviour of children with LD?

In the previous chapter, I mentioned and discussed how the indicators of thinking skills were recognised from early stages of this DBR, and how thinking skills could be stimulated by creative drama activities or by other discussed features (e.g. Forms of Participation and Collaborative Culture). Moreover, particularly in Section 4.10, I concluded Phase One with speculations about what might be considered indicators of thinking skills, beginning with the children's use of vocabulary and their interpretation of a situation and ending with how the children reflected upon their abilities during their group work. In the current section, I will identify the key indicators of thinking skills apparently fostered in the children with LD as found in this DBR project. Before I begin, it is worth pointing out that my assumptions and interpretations here are mostly based on the teachers' reflections along with the children's interactions during the sessions in all phases. I will refer to examples from the previous chapters and I will introduce new examples to support my arguments.

I divided the indicators into two categories: behavioural and verbal. This division was based on Norah's reflection on her experience as a creative drama leader during Iteration Two, Phase One. Norah reflected on the whole group generally and on the whole experience. She also mentioned interesting examples, such as when she reflected on Maryam's choice of animal during Cycle 3, Iteration Two, Phase One:

Norah: I was surprised that she picked the rabbit.

Me: Why?

Norah: Because it is totally the opposite to her personality. She is a very slow person in all of her actions. Even in terms of writing, reading, but I realised that her vocabulary changed. Do you know what has changed for me?

Me: What do you mean?

Norah: She starts to use different vocabulary expressing herself.

Another example using the same categories was when she reflected on Hannah's experience:

'Hannah has a strong personality, but she is not a bully. However, within the drama club, she was calm, polite, and I guess she was ok to engage with others besides her best friend. In her regular school day, she is only good with Lama and the twins only' (Reflection Conversation, Iteration Two).

From the previous examples, I noticed that Norah mentioned both a behavioural and a verbal change, which led me to follow the children's participation with these categories in mind.

4.19.1. Behavioural indicators

Changes in the behaviour or attitude of an individual are advocated by scholars as indicators of thinking (e.g. Walsh & Gardner, 2005; Oliver, Venville, & Adey, 2012). I am not claiming that changes are indicators of good thinking or even developing thinking; they are only presentations of how the children demonstrate the new culture to which they are introduced. In this research, both teachers pointed out the children's changes on several occasions; moreover, from the early stages of this project, I highlighted some of the behavioural indicators. To illustrate, going back to Table 4.4, when I unpacked the categories and looked only at the codes, there are two codes that might be defined as indicators: thinking skills freedom and adding/suggestion. Both codes emphasise the effectiveness of the children with LD during the creative drama activities. This effectiveness is an indicator that stresses the role of the children with LD in fostering thinking. In support of this argument, the data showed that working in a group and working collaboratively helped the children to practise thinking skills. This was stated by the children themselves as a positive aspect of the Creative Drama Club, such as when Nouf explained how they knew the story based on the cadres (See Extract 4.13, Table 4.21). Moreover, collaborative work implies that the participants have to consider each

other's actions and ideas. This was seen in the children's helping each other, giving suggestions and asking questions to ensure their understanding of the task.

Another behavioural indicator is on the individual level. Creative drama created an environment in which the children with LD actually had the opportunity to think. However, it is very difficult to detect particular thinking due to the overlapping nature of thinking skills, as discussed earlier. Thus, thinking can only be assumed when the child with LD displays thoughts and communicates them behaviourally. This communication can occur in different forms and it demonstrates different thinking skills. For example, when a child with LD 'explains' her actions and speaks her mind is a behavioural change, such as when Maryam explained her assumption clearly and provided a clear explanation of how she came up with her idea: *'If you look at the picture, you will know that they are the first to be here. That makes them the first people who noticed the waves move hard and the changing in the water. So, they made the call'* (Maryam, Cycle 1, Iteration Three). Another form of demonstration of different thinking skills is collaborative thinking which occurred several times during this project. By collaborative thinking I mean a type of thinking when the children between themselves help the group to clarify an opinion, or to evaluate their work and build upon each other contributions. For example, the children looked for alternatives (as discussed in Section 4.10) and evaluated their actions/ideas during the task.

The last behavioural indicator to present here is 'being reflective' which plays a significant role in this DBR as a part of both the research process and the findings. Reflective thinking was introduced to the children as part of one of the activities, 'Commercial Break', in which the groups had to reflect on each other and provide useful feedback. However, it was displayed by the children before and after this particular activity in Iteration One and Iteration Two. Being reflective indicates that the individual can recognise, analyse, assess and carefully make a judgment. From the definition, the reflective process is an internal process, however, such as other thinking skills the individual behavioural changes could indicate the process. For

example, the children in the focus groups of all iterations were able to decide what they liked or disliked. They were able to provide me with an insightful point of view about their experience as a member of the Creative Drama Club and provided me with suggestions and topics to consider for the Creative Drama Club. At this stage of my research, it is obvious to me that thinking occurred in the individual mind and can only be presented through its actions (e.g. verbal and nonverbal).

4.19.2. Verbal indicators

The use of language, or what Taggart et al. (2005) called the ‘thinking language’, has two different forms in this DBR: an indicator of thinking skills and a prompter of fostering thinking skills, which will be discussed in the following chapter. I will focus on it as an indicator here. For instance, the use of particular vocabulary (e.g. we need to compare the picture) to communicate what the child with LD thinks and to make an informed decision could indicate reasoning skills. For example, , the use of words like ‘think’, ‘guess’ and ‘memorise’ implies cognitive thinking skills and the power of vocabulary as presented in Chapter 2 and discussed by , for example, Taggart et al. (2005) and Mercer (2000).

The data showed how the children used precise vocabulary, far from basic, in order to communicate their thoughts clearly. By ‘far from basic’ I mean that they used it to justify their opinions. For example, Razan’s use of ‘because’ (Extract 4.1) implies that she not only suggested a source for the picture but also gave a reason for that. Later in the same discourse, Razan gave another example to support the same opinion. Another example might indicate the children with LD awareness is Lina’s justification of why a McDonald’s meal might be considered a healthy meal. She presented all the known information to support her statement (Extract 4.2). Further discussion of verbal indicators will be provided in the following section.

4.20. Nouf and Jana: an example of children's with LD demonstrations of thinking skills

This section brings together all the previous findings and views them through a different lens, focusing on the children with LD who participated in both phases of this DBR. Three children with LD participated throughout both phases: Nouf, Jana and Maryam. Moreover, in regard to these particular children, Norah mentioned them on several occasions and noticed some behavioural changes at their normal school lesson sessions. That tempted me to look particularly at these children's participation in the Creative Drama Club during the analysis. I found that they transferred some of the introduced skills and tactics from one session to another. From tracking their participation, I also noticed that indicators of thinking skills (See section 4.19) were visible. As Maryam missed several sessions, I have excluded Maryam's participation in my examples. That said, it is worth pointing out that the intention is not to compare the two girls, instead it is a way to interpret the finding from a different angle. I will focus only on the findings of Iteration Two and Iteration Three. Through looking back to the sessions, date, codes, and categories, I found three themes:

Theme 1: Risk-taking and increasing participation in the Creative Drama Club

A close look at my notes from both iterations demonstrates changes in Nouf's behaviour with regard to her participation and attitude. This change is presented clearly in Iteration Three, in which Nouf voluntarily led the group and was the person in charge of her group on several occasion. As discussed before, Norah mentioned that Nouf began to speak up for herself and not merely agree with the teacher or her peers. Nouf's participation increased over the course of the Creative Drama Club, and she seemed to become genuinely willing to take risks and step out of her comfort zone. The increase in both risk-taking and participation might be a result of the created safe environment and supportive culture. Table 4.23 (Section 4.17.) shows that one of the features of the Creative Drama Club was that the children with LD were able to effectively communicate their thoughts, ideas and perspectives because there were no barriers to relationships between participants. Nouf had a strong opinion regarding these

features, stressing her love for the idea of having class based on playing, and more importantly, she stated that the ground rules benefited her and helped her ‘never hesitate to say something’ (Extract 4.7, The Ground Rules).

One might argue that the creative drama sessions supported the children with LD’s emotional safety and helped them not to focus on what they could and could not do. That may be true in Nouf’s case; however, this change is part of the dynamic nature of creative drama, in which the sessions are designed to promote different forms of participation. The children demonstrated the changes differently. In Jana’s case, for example, the behavioural change that took place through her participation was different. At the beginning of Iteration Two, she was not comfortable working and talking with the whole group unless she interacted with children her age. I thought that was because of the age difference between her and the participants from the upper level. Norah had a different opinion, however; she thought it was because Jana experienced an attention deficit, which meant working in the group did not support her learning style. In contrast, when we (Norah and I) started to introduce the children to different group sizes, Jana showed more interest in engaging and participating. Besides, Jana supported Nouf’s argument regarding her hesitation and felt that ‘everyone can say anything’ (Extract 4.7, The Ground Rules).

Theme 2: Emerging communication, social and thinking skills

Both teachers noticed that the communication skills of children with LD changed in Creative Drama Club. That might be seen as one of the behavioural demonstrations of practising thinking skills because the children were able to explain, express and communicate their thoughts. Moreover, in the last session of Iteration Three, Nouf’s questioning style changed which might indicate practising thinking skills. For example, as mentioned earlier, she led the group by her choice and during that role she was posing questions which were asked either to help clarify something or to review and evaluate the work. Moreover, Both Nouf and Jana were able to communicate and socially engage with their peers. The real-context session

seemed to help Jana to participate and communicate; if the provided extracts in the description of Iteration Two and Iteration Three are compared, for example, Jana's frequency of words was different.

Theme 3: Engaging and being engaged

During the creative drama sessions, the engagement was different than in the usual classroom. The children engaged in various forms (e.g. physically and sensory) which introduced the children with LD to multiple types of participation compared to the traditional style. Involvement with creative drama was not only by sharing information with the teacher or answering a question, participation will be discussed in detail in the following chapter. Furthermore, I noticed that the children found participation and engaging easy. That could be because the creative drama sessions were based on related themes and experience enabling the children with LD to easily link the session activities with their world. Thus, they were able to participate and add any input they chose to the group. Moreover, I found that both Jana and Nouf referred to some of the activities in Iteration Two in order to achieve a task during Iteration Three. Although there is little evidence for teaching transferable thinking skills as reported by Wegerif (2005), it seems that the difference in Jana and Nouf during the creative drama session is that they chose to engage and become a part of the group, not only because they knew it was their right based on the ground rules, but because they both made a decision to be a part and recognised their value to the group as members of it.

4.21. Summary and conclusion

This DBR evolved into three separated iterations, each one had its findings as presented in chapters 6,7, and 8. The design principles were refined and revised through this iterative procedure of data collection. Table 8. 12. showed the final version of these design principles based on the findings of this study. It is worth to pointing out that, producing a list of design principles never was the intention of this project. For that, the principles are grounded in practice, and the findings would be a practical contribution more than a theoretical one. It can

guide researchers who interested in thinking skills and creative drama, but it would be more helpful for practitioners who are willing to use creative drama as a medium for fostering thinking skills.

The findings of this research suggested that thinking skills can be fostered through creative drama and children with LD were able to think and practise thinking. Moreover, one of the creative drama features is that children with LD consistently involved in the process of thinking and collaboratively creating whatever the activity required. In contrast to the children's role, the facilitator role was not only introducing the activity, but to support their thinking process, to assure the safe environment, and to manage the time if needed. The balanced in control and agency alongside with other featured helped in creating a collaborative culture with the inclusive and dynamic learning environment.

Finally, Nouf and Jana an example shed a light on how the collaborative culture and inclusivity helped them demonstrating thinking skills behaviourally. Even though it hard to provide evidence for thinking skills enhancement or transferring between different context. The participation of both girls showed the importance of adapting a variety of forms of participation and engagement. It also helped me understand the relationship between thinking skills, communication and social skills. The following chapter will discuss all of the features and aspects that revealed by the findings of this DBR.

Chapter 5

DISCUSSION

5.1. Introduction

This chapter offers a discussion about the possible contribution of creative drama to teaching thinking skills in Saudi Arabia, particularly for primary school children with learning difficulties (LD), based on the findings of this design study. In this project, I employed creative drama as a medium for fostering thinking skills based on the interactions and discourses of the children with LD who participated in this study. One of the outcomes of the study is a list of design principles a list of design principles for future practitioners (see Section 6.3.1.) , and I also proposed suggestions to eliminate the difficulties that I encountered in this DBR.

In this chapter, I will discuss the most salient Issues from the findings, as follows:

- 1) Creative drama as a thinking skills approach,
- 2) The nature of thinking skills based on the findings of this DBR,
- 3) The inclusive, dynamic environment created by creative drama, and
- 4) An analysis of the established culture based on the participants' practice.

Finally, this chapter ends with a summary and conclusion.

5.2. Creative drama as a thinking skills approach

I had hoped I would find clear evidence of the development of thinking skills; whilst there were indicators, these were not as clear as I initially had expected. These indicators, as I discussed in Section 4.19, revealed that the children with LD were exposed to and practiced various types of thinking skills within creative drama activities. Moreover, the children with LDs' understanding of the creative drama activities was grounded in the processes of thinking, communicating thoughts, imagination, problem-solving, and decision-making in order to do the tasks. Therefore, creative drama helped to develop a 'thinking space' where children could freely and collaboratively think and demonstrate thinking skills through drama techniques such

as improvisation, relationships, movements, and symbols. This space defined by aspects of learning context such as creative drama activities, the children's ideas, and the used material. A similar finding was reached by Cahill (2014), who found that improvised drama provided thinking spaces that could extend the play space to critical thinking and other thinking skills. Based on the enactment of creative drama in both phases of this DBR, I think that the creation of the thinking space is a process of adapting, accommodating, reflecting, and transforming of the following: the facilitator's role, the children with LDs' norm within learning rules, and traditional learning culture. In this process, children with LD are, in line with a dialogic perspective, entering into thinking space where they are thinking dialogically through communicating all available recourses (internally and externally) within the learning context. The process and outcomes of 'thinking space' within the Saudi context are unique and different from that which the children with LD used to (for example, see 'the commercial break' activity in both schools in Sections 4.4.2 and 4.9.1). Thinking space as phenomenon discussed first by Wegerif (2007) who was influenced by Bakhtin's work and the metaphor that defined thinking and language are cultural tools where the meaning or understanding construct within the context (see Section 2.4.2.). In this light, I would identify the children with LDs' understanding of creative drama as 'dialogic thinking' (Wegerif, 2007, p.151) which is situated in the dialogue context (see Section 2.4.2.). This creative drama process involves techniques and skills of distinguishing and recognizing the activity, adding and refining information, producing new information, refining and redesigning the dramatizing object, and reintroducing it as a new product. The pupil's dialogic thinking demonstrates, as Cremin, Burnard, & Craft (2006, p. 77) argued, that 'the creation of new knowledge' might be considered as evidence for children's achievement within the notion of creative learning.

In this project, the notion of creative drama and the DBR iterative cycles make possible the observation, declaration, and interpretation of the children with LDs' thinking skills while practising creative drama activities. Using creative drama to foster children's thinking skills

was resisted at the beginning of each phase by both teachers who participated in this study. In contrast, by the end of each interaction, both teachers agreed that the notion of creative drama enabled them, as teachers, to engage within the learning process not only as providers of information but in a role of giving, receiving, and constructing knowledge. In light of that, and taking into consideration the limitations of this study, I argue that creative drama as an approach to teaching thinking skills, shifts the direction of the learning process to a spiral through which thinking skills, meaning, and knowledge are constructed. That argument is supported by Baumfield (2015), who argued that the potential of thinking skills approaches is to create a 'virtuous circle' whereby the development of the learners within the learning inquiry allows the practitioner to engage by giving and receiving feedback (p.77).

Based on the findings of this research, using creative drama as a thinking skills approach is not without limitations. To illustrate, if thinking is socially constructed by children with LDs' participation through dialogue in a creative drama context, more effort should be devoted to establishing a more suitable method to encourage the dialogic thinking process while teaching. To address this matter in this project, to help the children with LD to interact and talk to each other in a creative drama context, the level of improvisation increased, and the session was semi-structured. Littleton et al. (2005) and Littleton and Mercer (2013) agree to some extent, arguing that, besides providing the opportunity to interact, it is important that children learn how to talk effectively. In order to help the children to talk, the creative drama facilitator needs to understand the 'types of talks', particularly the exploratory talk, in which children critically and constructively engage with each other's perspectives (Wegerif & Mercer, 1997; Littleton & Mercer, 2013) (see Section 2.8.3). Based on sociocultural theory, an explanation could be the children's dialogue responses to the drama activities were probably constructed first in their minds through their interactions then represented within their actions. It is not an immediate process but a recognisable one. Therefore, despite the time needed to construct thinking skills, creative drama is pertinent to the sociocultural theory, teaching thinking skills, the inclusive

learning of children with LD, and the purpose of the study. Moreover, it helps to unearth the children with LDs' dialogic thinking, though it might be covered up by other creative drama skills.

5.3. The nature of thinking skills based on the findings of this DBR

The value of fostering thinking skills in education has been demonstrated over time, with different suggestions and positions about the nature of thinking skills in response to the question of how to teach thinking skills (Wegerif, 2005). In the current research, children's thinking skills were fostered within the context of an extracurricular held during school time in which the drama facilitator directly targeted thinking skills within the activities. The findings of this DBR indicate a general impact on the practice of thinking skills for children with LD. To elaborate, thinking skills indicators in the current study usually refer to general thinking skills and never to specific skills (e.g., critical thinking skills, rather than mastering a problem-solving skill). Given the two phases of this research, the iterative nature of this project enabled me to recognize the overlap between the targeted and the practised thinking skills and shift the focus of the creative drama sessions from targeting specific thinking skills (Phase One) to be more general via focusing on one or more types of thinking skills (Phase Two). As a result, the children with LD were exposed to creative drama activities and interacted with the targeted thinking skills freely based on their abilities and interests. I think that is why the findings indicate that even if the focus was on particular thinking skills, others were also practised. These findings align with Uzunöz and Demirhan (2017), who studied the effect of creative drama on fostering thinking skills for preservice teachers of physical education. Their findings indicated that even when the focus was on critical thinking, creative drama had an impact on both the creative and the critical thinking of the participants. In this light, despite the fact that the design principles were developed based on several different approaches to teaching thinking, as I demonstrated in Section 2.8, this finding might place creative drama as enacted

in this DBR as ‘a separate programme’ that aims to develop thinking skills (McGuinness, 2005; Topping & Trickey, 2015; Wegerif, 2005).

The nature of thinking skills as positioned in this project and the three components of creative drama—posing problematic and contradictory situations, improvisation, and the dynamic environment, which will be discussed later in Section 5.4—make it possible to interpret the demonstration of children with LDs’ thinking skills during their participation. Based on the presented findings in Chapter 4, I will discuss this in the following sections.

5.3.1. Relationships, communication, and collaborative work as thinking

A notable finding of this study is the way in which the forms of relationship in terms of qualities and direction, and the communication skills of children with LD during their participation has changed. These three can be categorized as social skills and in this DBR, as an effect of creative drama, all three have been acknowledged and seen as constructive parts of the children with LDs’ development of thinking. To clarify, relationship qualities and directions refer to the changes in interaction and participation within the drama context from the ‘norm’ in the traditional Saudi classroom. This starts with the teachers suspending the authority of the everyday classroom (to a certain extent) and collaborating with the children actively, which according to Tam’s (2016) finding, helps to clarify the teacher’s uncertainty about the children’s capacity. It also introduced the participants of this project to a new definition of ‘participation’, which is not limited to answering a teacher’s question but extends to multiple forms, such as participating in a dialogue, helping each other, or even ‘silently’ participating in organising the environment as they saw fit. Synthesizing this finding with the participatory notion of interacting within a creative drama environment (Section 5.2) suggests that the use of creative drama strategies, such as roleplay and improvisation, may not necessarily bring about a participatory approach to practising thinking skills because participation took different forms. To illustrate, drawing upon the dialogic perspective of learning to think, social interaction creates a space that enables children to construct a new idea

based on others (Ligorio & César, 2013). That ‘other’ does not mean always a person; in Wegerif’s words, ‘to learn to think is to become dialogue with other; to learn to think well is to become dialogue with the Infinite Other’ (2011, p. 189). Where, the inner dialogue is one of the Infinite Others.

The interplay between learning to think and communication has long been researched. In fact, there are many strategies and techniques for developing thinking skills that are based on interaction and communication: for example, collaborative learning (Adey, 2006; McGregor, 2007), scaffolding (Robson, 2006), and providing feedback (Beyer, 2008a, b). However, less attention has been paid to learners with LD in researching these techniques and programmes (e.g., Baum, Cooper, & Neu, 2001; Sulaiman, Baki, & Rahman, 2011). Throughout the creative drama activities, I observed children with LD engaging in different patterns of communication during their participation. To elaborate, creative drama requires the children with LD not only to talk if they have been asked but enables them to engage with all the learning environment’s elements and to decide how and when to communicate appropriately in each situation. Therefore, the children’s communication was not always associated with the idea of **Completing** the task. For instance, they might talk to each other to justify their opinions, to **help** their peers to **resolve** a difficulty, and to **cheer** each other on within the task. The bold words show the intention of these patterns, which suggests that, for the children with LD, not all communication is thinking skills development-related, but it might be a form of practising these skills. Moreover, because of the nature of creative drama activities, as mentioned earlier, the considered communication in this research took different forms: verbal and nonverbal (e.g., performing and drawing). Drawing upon the embodied cognition perspective which considers that the individual cognition ‘is fundamentally grounded in sensory-motor processes and in our body’s morphology and internal states ‘ (Ionescu & Vasc, 2014, p.276). The thinking skills indicators could result in two forms because of a critical link between cognition and thinking. To explain, the body actions can be production of the link

between the external (i.e. context) and internal states (i.e. emotions) of an individual (Kiefer & Trumpp, 2012). The findings reveal that engaging in different patterns and forms of communication within the creative drama context requires the children with LD to be explicit and clear in their thoughts. According to González Moreno (2012, as cited in Sánchez-Martí et al., 2018), there are five conditions that prompt cognition, self-regulation, and reflective thinking, one of which is allowing and fostering communication with the teacher in an appropriate classroom environment. Thus, I can argue that if fostering communication is a condition to foster thinking, then fostering thinking through creative drama allows children with LD to communicate effectively.

5.3.2. Reflective thinking and self-directed learning

The findings of this DBR suggest that the use of creative drama to teach thinking skills with children with LD enables them to practise reflective thinking. Even though it was never targeted as a focus during the two phases, the indicators of thinking skills (both verbal and behavioural) show that children with LD referred back to their prior knowledge and experiences. Furthermore, the children with LDs' adaptation of reflective thinking skills were established in the processes of interaction, communication, and of making their thinking explicit (see Section 4.18). Based on the data, there were several examples of this. For example, increasing the level of improvisation, where the children had to set the goal, discuss it with each other, and plan for the achievement. Also, it could have resulted from the similarity between some of the activities or the sessions' themes across the iterations, which might have provoked the children to link and use previous experiences. Both explanations might be considered as outcomes of the dynamic interaction in cognitive activities among participants (children and the drama facilitator), which may be reflected in their demonstration of thinking skills enhancement. Therefore, creative drama activities as 'cognitive activities' expand the possibility for the practised thinking skills to evolve into reflection and thinking.

From another point of view, the previous explanations might underline the active and self-directed role of the children within the groupwork. Taking into account the collaborative culture of this intervention's environment, though, I argue (from a constructivist viewpoint) that in a collaborative learning culture, the active and self-directed role of a child is a crucial element, not only in collaborative knowledge construction, but also for a collaborative practice of reflective thinking as 'transferable' action. Despite the paucity of evidence whether thinking skills can be transferred from context to another (Wegerif, 2005), as mentioned above, children with LD reflected upon their previous experience and practice between the activities of creative drama. If reflective thinking is 'a cognitive attitude' (Sánchez-Martí et al., 2018, p. 13) that requires some important skills for the learners' role in both achieving the learning task and reconstruction of individual knowledge and practice (Sánchez-Martí et al., 2018, p. 13) to act and think skilfully (Dwyer, Hogan, & Stewart, 2015), then children with LD transferred these skills from one session to another by developing that cognitive attitude. The children's notion of reflective thinking helped them to see the similarity between the task and other experiences, to judge what might work and how, and to engage and communicate with their reflecting processes freely.

Since the participants were primary schoolchildren, and due to the limitations of this project, it is hard to claim that the children with LD became independent learners, even to some extent. However, this finding might imply that they were more aware of their abilities—they were assessing, refining, and rethinking their actions during the activities—and finally, it might suggest that because of the interactive cognitive activities of creative drama and the good relationships and communication among children with LD, their peers, and the adult within the group, (Alnesyan, 2012) children with LD can be active learners who can comprehend a task, synthesize all the information, produce a deeper understanding, and finally, effectively reflect on that understanding. This finding corresponds with Sánchez-Martí et al. (2018), who argued that meaningful learning requires elements that trigger the students' reflection and helps them

to learn from their experiences to shape their cognitive abilities and improve their professionalism.

5.4. The nature of the creative drama learning environment

5.4.1. Dynamic learning environment

The dynamic and inclusive learning environment created by the use of creative drama seems to be suitable for fostering the thinking skills of children with LD. According to Cahill (2014), the use of drama as a method of prompting critical thinking requires both critical inquiry and social change. The position of thinking skills, the creative drama activities, and the role of the facilitator in the present research could serve as a possible alternative to the ‘traditional’ way of teaching thinking skills for children with LD, particularly in Saudi Arabia. Both teachers and children mentioned how the learning environment made their participation journey different, and both emphasized the power of this learning environment. My understanding of the environment created by this intervention started with me noticing the importance of including physical activities and providing freedom of movement in the process of promoting thinking skills. Children with LD in the focus group tended to refer to it as a play, and it made the experience joyful (e.g., Extract 6.3). Similar findings were reached by Momeni, Khaki, and Amini (2017), who noticed that playing, moving, and freedom of action boosted and expanded children’s imagination, which had a significant impact on the creativity of young children (age 4 to 6). As stated by Andolfi, Di Nuzzo, and Antonietti (2017), body movements and gestures have influenced the production of novel and innovative ideas. Referring back to the traditional classroom environment in Saudi Arabia, the norm is learners passively listening to their teachers and only participating if they have been asked (Almulla, 2017). This might clarify why the movements and freedom of action had an impact on the learning environment within this specific context, which might be seen as the two requirements mentioned by Cahill (2014) earlier to prompt critical thinking. It also aligns with Ionescu and Vasc (2014) finding that active physical movements are beneficial for learning. In their discussion of the challenges

that embodied cognition approach raised for psychology and education. Ionescu and Vasc (2014) suggested that education needs to change methods of teaching, especially with young learners, because higher-order cognition needs ‘*appropriate* sensory-motor experiences’ to enhance (Kiefer, & Trumpp, 2012, p. 1)

The dynamic nature of creative drama activities is not limited to physical involvement, however: It refers to all different changes within the context, activities, and techniques of creative drama, of which every session was entirely different, even though they all shared the same ground rules. It also includes all talk during and in between activities. Play is dynamic and continually evolving, and it depends upon ‘who, when and where’ (Grieshaber & McArdle, 2010, p. 20). Therefore, one of main features of creative drama is that its techniques consist of characteristics that focus on the process, not the product (Herbert, 2012; Uzunöz & Demirhan, 2017). Herbert (2012) argues that pedagogy is a form of art, so a lesson cannot be reproduced. Although creative drama is a form of art, the change resulted because the sessions in this intervention were completely based on improvisation and dependent on the interplay between the session’s theme, the children’s interpretation of it, the drama facilitator, and context elements (e.g., time and setting), which made reproduction impossible. In this regard, through it provides cognitive activities that engaged all participants in continuous collaborative learning, creative drama can create a changeable and ‘rich learning environment’ that enables participants to develop an understanding and reshape it as a natural process of their learning and thinking development experience (Grabinger & Dunlap, 1995).

5.4.2. Inclusive learning

The understanding of the role of inclusivity in fostering thinking skills as a key element of the creative drama context started at the early stage of this project. Throughout presenting the findings of this thesis (Chapter 4), particularly Section 4.15, I discussed how the meaning of inclusive learning has been articulated and what the possible explanation for it is. This study revealed that an inclusive learning environment within creative drama as an approach to

teaching thinking skills means that all learning process parties are involved in the processes of thinking and learning. Creative drama according to O'Neill (2008) is an inclusive activity by nature; she also believed that it can help children with special needs to develop both social and play skills. Based on the three categories (Section 4.15), I illustrate that the creation of inclusivity involves accommodating, balancing, and changing both teachers' and children's roles, as well as their classroom experiences and traditional learning culture. In this process, they constructively challenge each other's abilities and ideas and interact within the thinking space. That construction can be seen as a unique situation that all parties of creative drama deal with in each session. As previously mentioned, suspending authority helped teachers to learn the learners' abilities and improved the quality of relationships among children with LD, their peers, and the adult within the group. In contrast, suspending authority can imply maximizing the learners' agency regarding their learning process, which according to Jónsdóttir (2017) is 'crucial for supporting' learners' thinking skills and creativity. In this context, by learner's agency I mean changing from passive learning, so the children have the possibility to 'mak[e] choices and act on these choices' in a way that impacts their learning process (Martin, 2004, p. 135). Having the ability to make a choice, along with narrative, to Lindgren and McDaniel (2012) is a power that constructs and creates a purposeful experience. The sense of agency was indeed visible to children with LD during their participation; this is evident in Maryam's expression, *'because we design everything and think of everything'*. Children with LD in this research emphasized and reflected on the importance of interaction and the opportunities of choice in performing and play during the focus group. In this regard, this aligns with Breathnach, Danby, & O'Gorman's (2017) suggestion that, play in an educational context allows the child to exercise agency and have a choice through performing activity. Also, Smith (2007), who advocated children's rights, argued that practitioners can afford agency by providing children with the opportunities to practise choosing, decision-making, and controlling their learning.

The challenge is developing an environment where there is a balance between a drama facilitator's authority and the children's agency and in which each party is aware of his or her role. When children with LD engaged in a creative drama activity, they had to think of all the available information and frequently make a decision regarding many dynamic elements, such as 'who, when and where' (Grieshaber & McArdle, 2010, p. 20), which required the facilitator to get involved to some extent as 'an adult', not a participant. The children described the level of involvement of the drama facilitator as a way of 'thinking together'. During some activities, there was a time when children, notably those with LD, could declare their agency toward their decisions. For example, they get involved in activities using instructions or tactics had been described in previous creative drama sessions, just because they noticed the similarities between activities. Consequently, 'thinking together' refers to the fact that children were able to share their thoughts, compare and contrast the context, and make a joint decision based on the interactions, then I can argue that the phenomenon 'thinking together' can be seen as a reflexive expansion of what children exercised during their participation, what they had to do in response to the task, what they had to do to deal with a challenge, and how they actually interacted during the activities. However, it was the children's understanding of the facilitator's role that defined it within the activities. This balanced agency is what Breathnach et al. (2017) argued for in regard to the agentic nature of children, along with the need to consider refocusing the teacher–children interaction in classroom activities.

5.4.3. The role of the facilitator

In this DBR, the role of the facilitator within creative drama as a thinking skills approach can be divided into two main areas: before/after the session of creative drama and during the enactment of the session. Moreover, each area consists of several responsibilities. For example, in addition to the practicalities (e.g., time, place, and resources), the facilitator had to plan a session that was semi-structured in terms of focus, objectives, and activity sequence yet flexible and adaptable in order to encourage the children to think and expand their possibilities of

practising thinking skills as much as possible. Therefore, based on the finding of this DBR, the drama facilitator throughout the sessions has to have reflection in actions, which coincides with Lehtonen, Kaasinen, Karjalainen-*Väkevä*, and Toivanen's (2016) argument that being present and reflective enables a drama facilitator to connect with his or her learners and understand their abilities and needs. In addition, the findings reveal that in order to design the activity, the facilitator needed to assess all the elements of the learning environment to determine the learners' abilities and what might work based on the environmental conditions. To address this issue, along with the limitation that both teachers and children were new to creative drama, the first session of each iteration was exploratory and aimed just to introduce the children and teacher to the notion of creative drama as a teaching and learning approach. This finding corresponds with Berg Marklund, & Alklind Taylor (2015), who assumed that this is an essential stage of designing a game-based learning environment.

With teaching thinking skills as a focus, if the creative drama context is learner-oriented, as this thesis suggests, then the bulk of the facilitator's role is to foster thinking skills while running a creative drama session (see Section 4.15). Although the role of the facilitator during the pedagogic process has been ignored by researchers (Jong, Dong, & Luk, 2017; Berg Marklund, & Alklind Taylor, 2015), the importance of the facilitator's role cannot be dismissed (Çayır, Akhun, & Şimşek, 2016). Leading the session is one of the aspects of the design principles; through my collaboration with teachers in this project, I can disclose that during the session, there were two main important roles that the facilitator needed to take on when teaching thinking skills through creative drama: introducing instructions and prompting children to think. Combining both would encourage children to interact, respond to each other's ideas, and construct new knowledge. This role of the facilitator is what Kompf, Boak, Bond, & Dworet (1996) identified about the constructivist practitioner's role, which 'allow[s] student responses to drive lesson, shift instructional strategies, and alter contact' (p. 173).

In Section 5.4, I argued the need to establish a balanced learning environment to support children with LDs' cognitive learning process. An explicit and gradually infused form of instruction is one of the elements that supports the creation of the learning environment. The effect of having clear and explicit instructions to prompt thinking skills has been studied by many (e.g., Abrami et al., 2013; Bensley & Spero, 2013; Nieto & Saiz, 2008); the way the facilitator introduced instructions during this project was iteratively amended. The final version of the principles shows that facilitating the instructions has to be a gradual infusion through clear and explicit language. This form of instruction is called 'direct infusion', which according to Bensley and Spero (2013), is a process of infusing the explicit instructions (e.g., the rules and principles of thinking skills), providing practice to exercise, and finally formatively providing feedback to guide the practice. The impact of how the instruction introduced was not explored enough in this project, especially in comparison to the point that the initial design principles were driving by the direct instruction approach (see Section 2.8.2). By contrast, during the enactment of Iteration Three, increasing the improvisation time made the need to establish certainty in the instructions clear. Since the intention is to help children with LD to improve their thinking skills, teachers need to take into account the instructions and be sure of their implications (Pekdoğan & Korkmaz, 2016). However, it could be argued that instruction could also be seen as a way of promoting thinking skills. Nonetheless, the findings reveal that prompting thinking skills within creative drama is not limited to instructions. Accepting that the creative drama context is dynamic, fictional, and problematic, prompting children with thinking facilitators can develop their abilities to be more flexible and constructive learners.

Therefore, to prompt thinking, according to Lehtonen et al. (2016), the facilitator frequently requires 'spontaneity, presence, accepting ideas, tolerating mistakes, group mind, and shared culture convention' (p. 561). It is worth pointing out that Sarah (the SEN teacher at School A) mentioned these elements of teaching as her weaknesses during the cycles of Iteration One. According to Sarah, the children had more potential, but she felt that she was not able to keep

the thinking process going. This might be linked back to the ‘norm’ of teaching and learning in Saudi Arabia, where the teacher is mostly the provider of new information. The active role of a teacher in a regular classroom has been studied by many researchers in Saudi Arabia, especially in the educational technology field (e.g., Alsaleh, 2017; Alzahrani & Woollard, 2013) and there is an increasing awareness of the need to adopt this active role nowadays. According to Alzahrani & Woollard, (2013), teachers have to play a facilitator role which is more active and goes beyond delivering information. Alsaleh (2017) agrees with that, suggesting that teachers have to put more effort into understanding their students’ abilities and need to encourage them and provide them with suitable feedback. Another possibility may be the impact of the intervention on teachers’ thinking about teaching in general and about thinking skills in particular, and also about inclusivity.

As I discussed in Section 5.4.1 and Section 5.4.2, inclusivity had a different definition in this DBR, which was different from the Saudi’s ‘traditional’ learning environment. Discussing the same points from another angle (teachers’ thinking) might shed light on how changing the role can change the perspective of a teacher. Both teachers who participated in this DBR mentioned how they were surprised by the children’s ability to discuss and collaborate with all peers within the group, and how that helped them to forget that the children did not all have the same learning abilities (see the example in Chapter 4, particularly Section 4.5). This can be not limited to the use of creative drama, and it may result from the fact that teachers stepped out of their comfort zone. According to Carrington, Mercer, Iyer, and Selva (2015), transforming the learning environment influences the approach to teaching, the teachers’ understanding and actions in the classroom, and finally transforms their thinking and values in a way that supports their teaching and inclusion.

5.5. The established learning culture based on the research findings

Culture is a complex term with no single definition. The simplest way to describe it, according to the Center for Advanced Research on Language Acquisition (CARLA), is as

‘shared patterns of behaviours and interactions, cognitive constructs and understanding that are learned by socialization’. It is not written knowledge (Pratiwi & Wulandari, 2015) but mutual respect, accountabilities, and responsibilities within a community. Thus, culture can be deployed as an agent to help children to construct understanding and respect as life values (Pratiwi & Wulandari, 2015). In education, a learning culture can be considered in many ways; in general, it is the ongoing process of learning and reflecting within diverse contexts (teacher learning, student learning, and community learning) (Scarino & Liddicoat, 2009). It considers both the environment and experience that are created by the teacher for learners and that which is shared between the teacher and the learners (Scarino & Liddicoat, 2009). Therefore, it is not a teacher, a student, or a context but a commitment to learning (Pratiwi & Wulandari, 2015; Scarino & Liddicoat, 2009) in which every aspect of the learning process not only values learning but is responsible for the process of learning (Scarino & Liddicoat, 2009). The findings of this DBR reveal that the use of creative drama creates a collaborative and democratic learning culture that focuses on constructively fostering thinking skills for children with LD in an inclusive group. There are five elements of this collaborative culture, as shown in Figure 10.1:

1. Creative drama facilitator

(active role, planning and designing, implementing and prompting, reflecting and redesigning)

2. A child with LD in an inclusive group

(thinking, communication thoughts, imagination, problem-solving, and decision-making)

3. Creative drama activities

(problematic and dramatic situations, dialogue, participation)

4. Storyland and the ground rules

(beliefs, assumptions, and expected attitude)

5. The dynamic and inclusive learning environment.

Most of these elements were discussed before, in Chapter 4; however, despite the limited resources in this thesis (e.g., number of iterations and sample size), two main characteristics of the established culture were identified: democracy and collaboration. This section aims to address characteristics with respect to these five elements.

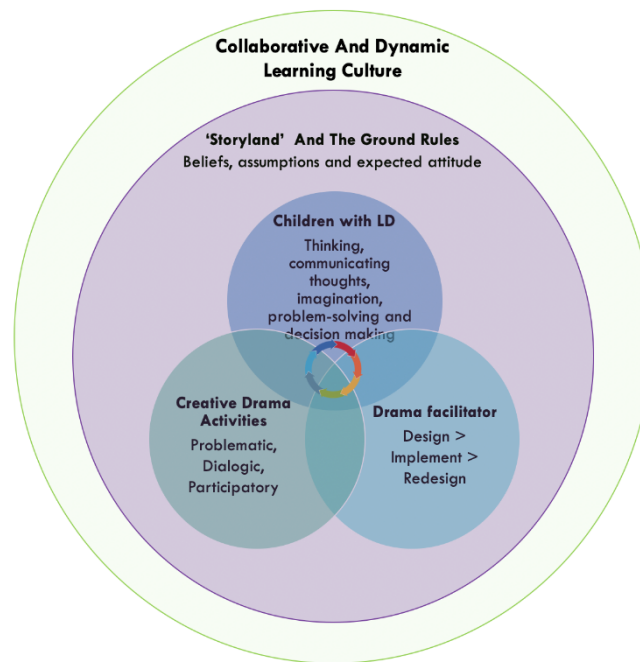


Figure 5.1. The elements of the collaborative learning culture

This research study’s design evolved through understanding the sociocultural perspectives and was underpinned by constructivist philosophical assumptions. The teaching and learning occurred constructively, so the creative drama sessions tended to shift the traditional roles, assumptions, and expectations of both teachers and primary schoolchildren. Moreover, based on the previous discussion, the nature of knowledge changed from a ‘fact’ delivered by the teacher to something dynamic, changeable, and different, which Bada and Olusegun (2015) described as ‘the ability to successfully stretch and explore the worldview’ (p. 68). Therefore, in this thesis, the use of collaboration to justify, reason, evaluate ideas, share information, make decisions, and solve a problem was always an obvious, distinctive feature of the learning culture. Moreover, that collaboration culture acted as a channel that helped to link the elements

of the learning culture. In Chapter 4, I discussed how the learning environment of creative drama was built on trust, and I explained how the ground rules and the imaginary Storyland helped to change the assumptions and the beliefs of all parties, which created this trust. The interactions between these five elements supported the thinking skills learning process and enabled the children with LD to interact in a safe learning culture that supported them emotionally. Laal and Laal (2012, p. 493) stated that collaboration is ‘a philosophy of interaction’ in which individuals’ responsibilities extend to include learning and respecting the abilities and contributions of their peers (Laal & Laal, 2012). From a sociocultural perspective, I think that the shared responsibilities, respect, and trust can be understood as a bond that cohesively joined the aspects of this learning culture. ‘Collaborative’ indicates an interactive notion, and there is evidence of the effectiveness of working together in a dialogic, participatory environment to facilitate and encourage the development of the learners’ agency (Mercer, Hennessy, & Warwick, 2017). However, as discussed before, it requires breaking boundaries (Hakkarainen, Paavola, Kangas, & Seitamaa-Hakkarainen, 2013). Based on the findings, a crucial factor developed by breaking these boundaries was visible democracy for everyone. Alexander (2013) suggested that democratic engagement in dialogic interaction can facilitate learners’ cognitive development and communication skills. The definition of democracy here is limited to the creative drama context; however, the ground rules set the rights of all participants clearly. They also provide them with structure and choice, to some extent giving their voices equal weight to that of the facilitator. It is important for both drama facilitator and children to realize that everyone has to be treated the same.

5.6. Summary and conclusion

To conclude, the research question I aimed to answer in this DBR was ‘How might creative drama foster thinking skills in children with LD in a primary school in Saudi Arabia?’ Figure 10.1 shows that the dynamic and inclusive learning environment was a result of the interrelationship between the three main components of this research project. The iterative

nature of DBR enabled me to analyse the role of each element and reach an understanding about how changing the assumptions and the expected attitudes of both teachers and students aided the quality of their relationship. By synthesizing the findings, I described the notion of thinking skills and learning environment. Also, I illustrated how the three aspects of this DBR linked to one another and how the interactions in the thinking space framed the children with LDs' development of thinking skills. I made efforts to understand how creative drama as a thinking approach might help to foster thinking skills in children with LD. From the start of this project until the discussion of its findings, I aimed to present experiences, understandings, and explanations shared among all people involved of how creative drama can be used to foster thinking skills in children with LD. The next chapter will discuss the contribution of this thesis on a theoretical, a methodological, and a practical level.

Chapter 6

CONCLUSION

6.1. Introduction

This chapter starts with a brief summary of the project journey. It then presents the contribution of the research to the field and the theoretical and practical implications and reflections. This is followed by the limitation of this Design-Based Research (DBR) and suggestions for future research. This chapter concludes with my final thoughts on this project.

6.2. Summary of the research

As mentioned in Chapter 1, the research interest started based on my own experience as a math teacher who has questions such as ‘Is thinking teachable?’ and ‘How, as a teacher, can I provide a learning environment that suits all learners’ abilities?’ After reviewing the current literature, I realised the relevance of thinking-skills approaches and strategies and their impact on creative drama to prompt the cognitive development of children who identified as having Learning Difficulties (LD), especially in Saudi Arabia. Besides my interest, literature revealed a limitation in educational research about thinking-skills approaches for children with LD, prompting their thinking skills and enhancing their learning process in mainstream schools.

This DBR incorporated three research areas – teaching of thinking skills, children with LD, and creative drama – as one iterative project that aimed to understand the nature of relationships among these three areas. The design principles of this project were constructed based on the existing literature; therefore, Phase One of this DBR aimed to test them and refine them based on the empirical findings. It contained two iterations where each consisted of several cycles (see Figure 6.1). Each iteration was conducted in different primary schools in Saudi Arabia.

Despite the aims of this phase, its outcomes suggested that creative drama shifted the norm of relationships among children themselves and the adult within the group. Moreover, the

findings of Phase One indicated that creative drama created a dynamic learning environment and that the ground rules of *Storyland* inherently allowed children with LD to collaboratively practise multiple forms and levels of thinking, which contrast with current literature and research in collaborative work among children with LD. By understanding the outcomes of Phase One, the design principles of this project were revised and developed to better understand the learning environment and culture as established by creative drama.

Phase Two had only one iteration (Iteration Three), which included six cycles. This phase was implemented at the same school as Iteration Two (School B). There were two main differences between the two phases in terms of implementation: the focus of thinking skills and the level of improvisation. Phase Two aimed to understand how thinking skills of children with LD might be fostered through creative drama. The outcomes of Phase Two suggested that the inclusivity took a different meaning within the created dynamic environment, meaning inclusivity referred to the balanced empowerment and the awareness regarding the role of each participant of the learning environment. That balanced the role of the facilitator within the notion of constructed teaching and learning process.

Additionally, the findings indicated that creative drama as a thinking-skills approach enabled children with LD to practise their thinking skills that showed through their behaviour. In the discussion, I related the findings with the current literature, and indications were pointed out for educational research to focus on exploring more approaches to promote thinking skills for children with LD. In the following sections of this chapter, the aforementioned features were highlighted.

6.3. Contribution of the study

The contributions of this DBR can be categorised as methodological, theoretical, and in relation to professional knowledge regarding learning and developing thinking skills for children with LD of primary school age. This section highlights the theoretical and empirical contributions, and in Section 6.4. I focus on the methodological contributions. Some of the

theoretical and empirical contributions of this DBR are context-specific, while others are theoretically broader pertaining to the literature field of both developing thinking skills and teaching children with LD.

The literature review of the current DBR identified the lack of research in the field of thinking skills on learners with LD. The present research explored the use of creative drama as an extracurricular activity, focusing on fostering thinking skills for children with LD. The iterative procedure increased the understanding of teaching thinking skills for children with LD and highlighted the strength and weakness of creative drama as a teaching approach. The findings also suggested that creative drama may be viewed as a thinking skills approach. Although the focus of this research was not to explore creative drama as a teaching approach, this might contribute to the knowledge about the teaching of thinking skills in general, and to Saudi's researchers and practitioners in particular, by proposing an approach that consists of, and shares similarities with several well-known strategies and programmes for teaching thinking, such as dialogic space and scaffolding.

The current research has contributed to knowledge through its 'dynamic approach' as a common feature of a number of aspects of the current research. First, 'constructivism' as a philosophical paradigm asserts that through experiencing and reflecting upon these experiences, individuals construct knowledge. Second, 'creative drama' is a flexible, open and adaptable teaching approach that consists of activities that allow the learners to decide on their actions. Third, as the findings indicated that 'thinking skills' are not hierarchical or linear and the overlap among specific skills is visible, then the learning process of thinking skills is dynamic. Finally, the 'design-based research' as a methodological approach, is also flexible and adaptable, just like creative drama, allowing change at any stage. More importantly, DBR is an iterative process which is useful not only in gaining understanding but also in implementing creative drama sessions. The 'sociocultural theory' guided all the preceding outlined aspects as a framework, which suggests that learning is a social process where the

meaning of phenomena could be changed and constructed within the interactions between learners and cultures. This ‘dynamic approach’ emphasises ‘reflection’ as a cognitive attitude in a number of ways. For example, most of the decision of this DBR (e.g. by participants during creative drama activity or by myself as a researcher) emerged from a constructive process dependent on what was currently notable concerning with the following situation.

The current research has shown the usefulness of adopting ‘reflection’ in fostering thinking skills for children with LD enabling pupils to share their opinions, communicate their thoughts, revise the shared information and conclude or understand that meanings could change. The continuous process of reflection through the different cycles provided insight and understanding through exploring different perspectives and investigating multiple situations, and it supported the unpacking of the complex context of this research. Therefore, this research suggests the use of a cyclical approach in investigations in a complex field such as thinking skills and special education needs. This contribution is important professionally because it provides the children with LD with the opportunity to learn through a continuous process that enables the changes and allows different possibilities. This contribution is also important methodologically because it provides the researcher with a methodological approach that enables more than one opportunity to collect data. It also gives the researcher an opportunity to study many diverse facts of a complex phenomenon.

In addition, the findings of this DBR provide a different understanding of inclusivity as a broader concept not limited to the field of special education. This understanding differs from the established definitions of ‘inclusive learning’ or ‘ inclusion’ in relation to both ‘teaching children with LD’ and ‘fostering thinking skills’ since it emphasises the importance of shared responsibilities within the collaborative culture and thinking together (facilitators and learners) to achieve a learning goal. The current research indicates that inclusive learning refers to the learning environment where all parties are involved and share responsibilities toward the

learning process. The findings also emphasise the significance of the balance between the agency and shared responsibilities within this inclusive learning environment.

Moreover, this DBR evolved through understanding the sociocultural perspectives and was underpinned by constructivist philosophical assumptions. For that, one of the main findings of this intervention is introducing the dynamic relationships between the elements of this collaborative culture (see Section 5.5 and Figure 5.1). This DBR accents that there is a necessity to establish a holistic framing of interventions to promote thinking skills within an inclusive learning environment. Alongside with the new definition of inclusivity, as mentioned above, Figure 5.1 can be used as a set of starting points for researchers in teaching thinking skills.

The most obvious practical contribution of the current DBR is the design principles. In Section 6.3.1., I outlined the final principles of using creative drama as a thinking skills approach as guidance that could be used by practitioners who are interested in: (1) teaching thinking skills using creative drama, (2) collaborative learning, (3) using creative drama activities to support learners with special needs, and, (4) communication and social skills. Besides these principles, the findings of this DBR provide an overview of how the collaborative and democratic learning culture of creative drama not only enhanced the development of thinking skills but also supported the learning process in general. Moreover, the influence of this culture was not limited to children with LD; it also benefitted the teachers in their teaching process (i.e. planning the session) and all students whether they had a special need or not. The construction of the learning process within this culture provides a unique contribution to practical pedagogic knowledge about the effectiveness of the interrelationship of each aspect of the learning process, suggesting that education needs to shift towards a more constructive approach to teaching and learning.

With regard to the Saudi context, the current literature and Saudi's educational legislation of special education strongly emphasise that education should be inclusive not only for those

with disabilities but also for all children (Al-Zoubi & Bani Abdel Rahman, 2016; Al-Shaer, 2008). Both teachers of the two schools suggested the significance of an inclusive learning environment to the learning development of children with LD and that interactive activities should be included in practice so these children may think and communicate with others while learning. This finding is important, contributing to professional knowledge about inclusivity for teaching and learning thinking skills for learners with LD.

The current literature also limited inclusive learning in Saudi Arabia to the individual support programme and the 'resource-room' (Al-Zoubi & Bani Abdel Rahman, 2016). From a pedagogical perspective, the current study showed the importance of collaborative learning for children with LD, the significance of children with LD having agency in their learning, and the importance of the form of relationships within a learning context. Although the current research did not focus on the social participation of primary school-aged children with LD, it suggests aspects of a positive relationship between a teacher and peers as an essential dimension of cognitive and learning development within inclusive learning.

6.3.1. The final version of the design principles

To create a collaborative and dynamic learning culture that focuses on constructively fostering thinking skills, as discussed in Section 5.5, five elements work collaboratively within the learning to develop the process of thinking skills. However, the creative drama facilitator has the most significant role within this culture. That is because his/her part is beyond the creative drama session. It is an active role that includes three main parts: planning and designing, implementing and promoting, and reflecting and redesigning. Referring back to the preliminary version of the design principles (see Section 2.17.1), two of these parts are related to the aspects of this version.

There were three main aspects of the preliminary design principles: planning for the creative drama session, creating a safe and supportive environment, and leading the creative drama session. In Chapter 2, I explained how I developed the preliminary version of the design

principles and how they were driven by the literature of learning and developing thinking skills. Later on, through presenting the procedure and the findings of each iteration, I explained the changes based on the findings of each iteration. This section presents the final version of the design principles as:

Guiding Principles for Using Creative Drama as A Thinking Skills Approach:

1. Planning for creative drama session

This aspect focuses on creating a session plan constructed of unified elements (i.e., focus, activity, and theme), and it concerns this plan's components (i.e., materials and time). It consists of five principles:

- Target one type of thinking skills with the acknowledgement of intertwined joint thinking skills and the ability to support other skills.
- Design a coherent and unified chain of activity to encourage inclusivity.
- The activity has to be child-centred and pose a problematic situation that stimulates children's thinking.
- Activities have to be dynamic, where the children are free to move and use the space (physical movement).
- Materials have to be varied (e.g., music, picture, puppets, and costumes) but balanced to the extent that they do not distract the participants.

2. Creating a dynamic, safe, and supportive environment

This aspect is all about the tools that the facilitator needs to ensure the safety of participants. That said, I think the following principles can be seen as tools that could be modified based on

the participants' age. Thus, the ground rules are just an example of an implementation of these principles. The ground rules are:

- Create an imaginary space (i.e., Storyland), which each session starts by going to.
- This imaginary space has to have its code, known as 'Ground Rules':
 1. All answers are acceptable—there is never a wrong answer.
 2. Listen to each other carefully.
 3. Respect each other's ideas and never make fun of any answer or idea.
 4. Laugh out loud and smile whenever you want.
 5. Look out for each other all the time and move cautiously so we do not hurt each other.
 6. We always love to hear your voice.
 7. Repeat the ground rules whenever needed to ensure the participants' safety.

3. Facilitating the creative drama session

This aspect is about the facilitator's role; she/he has to maintain smooth transactions between two roles (teacher and facilitator). This balance is the key to most of this established culture's characteristics (i.e., inclusivity and democracy). There are four principles:

- Keep the dialogue alive: Thinking together and collaboratively is learnt from dialogue with each other.
- The facilitator is partially a participant because constructing meaning and mastering a skill is a participatory process.
- Participants need to be encouraged to think and communicate their thoughts. Thus, prompting and stimulating need to have multiple cumulative forms (e.g., visual, verbal, direct, and indirect).
- Instruction has to be gradually provided to participants with clear and straightforward language and divided into multiple steps.

6.4. Methodological contribution, implications, and reflections for future research

6.4.1. New definition for design-based research

In this research project, design-based research was used in the research process to guide choices; to think, share, consult, negotiate, and make joint decisions with the coresearcher; and finally, to provide a ‘space’ to creatively and critically think and reflect upon every step toward answering the research question. Methodologically speaking, the focus in Phase One was on revising the preliminary version of the design principles of the use of creative drama to foster the thinking skills of children with LD, while the research focus in Phase Two was to iteratively implement and refine the revised design principles in order to collect ‘good’ data. Apart from the focus of this DBR in each phase, the approach of implementing DBR within the two phases shifted from a systematic approach to a more dialogical approach to study all variables (i.e., creative drama, thinking skills, and children with LD’s participation). In this thesis, the notion of a systematic approach could be seen in the presentation of the procedure of data collection in both phases (Chapter 4). Generally, design-based research is defined as ‘a systematic but flexible methodology’ that is ‘based on collaboration among researchers and practitioners in real-world settings’ (Wang & Hannafin, 2005, p. 6). With respect to that, this thesis contributed methodologically to the design-based research literature through defining it as ‘a dialogic space of thinking’ that collaboratively bridges the gap between theory and practice. This way of describing design-based research is driven by sociocultural theory—in particular, the dialogic perspective that influenced this thesis—and it resulted from my reflection upon implementing DBR as a dialogical approach to carry out this research project.

Bakhtin is known for concepts such as ‘dialogue’ and ‘space’ and ‘multivoicedness. Space here is different from physical space; it is imaginary, situated within the dialogue context, and according to Wegerif (2007), it ‘opens up when two or more perspectives are held together in tension’ (p. 12) (see Section 2.4). Design-based research is an interactive, participatory, and collaborative process in general, and it seemed to be dominated by its dialogic nature in this research project. Moreover, as stated in Chapter 3, the teachers were co-researchers, and in

Section 3.11, I mentioned how the teacher got more involved as a coresearcher and took part in reflecting on and thinking about how the design principles might be refined. This shift in the level of involvement could be because she participated in both phases. In contrast, this shift could be because the dialogue space boundaries of our conversations expanded to allow more creativity and critical reasoning. The teacher and I in each iteration were thinking together through the process of conducting each cycle. The interactions between us as participants in a dialogue supported the procedure of data collection because the decisions were made based on both perspectives and all decisions could be flexibly modified within the iterative process.

In my opinion, DBR as ‘a dialogic space of thinking’ supported me as a Ph.D. researcher and enabled me not only to learn from my mistakes but also to widen my experience as a researcher to think about and discuss these mistakes with the teachers (e.g., not using the craft in the focus group). DBR is also a dialogic thinking space in which the teachers taught and I engaged with the participants and learnt to see the creative drama activities, the sessions, and the children with LD’s participation in these sessions through their eyes (Wegerif, 2007). This thesis aimed to understand how creative drama fosters thinking skills among children with LD. According to McTighe and Wiggins (2012), understanding requires ‘numerous opportunity’ to draw inferences and make conclusions (p. 6). And the cyclic notion of DBR provided me as a researcher with opportunities to recognise and link the relationships between these research aspects and to draw a conclusion. However, DBR and dialogic space are both grounded by the perspectives of the participants in them. This definition of DBR proposes a methodology influenced by the characteristics of the dialogic space of the realm of thought.

6.4.2. Practical implications and recommendations of DBR

Although this DBR aimed to answer the ‘how’ through understanding the relationships among thinking skills, creative drama and children with LD, separating any contribution of this project’s findings from any possible practical implications is difficult.

An important finding of Phase One was that the relationship qualities, directions and communication skills of children with LD changed during their time in the Creative Drama Club. A reason for this might have been that designing the majority of the creative drama activities was influenced by creating a thinking space, which generally required the participants to collaborate. This finding – combined with the finding that to achieve a given task, the children with LD have to master lower-order thinking skills to engage in higher-order thinking skills collaboratively – implied that dialogue-based activities needed to be integrated into the regular primary curriculum in Saudi’s education system. This suggested that if thinking skills could be practised collaboratively, adopting the dialogue perspective of thinking considering ‘the dynamic and interactive nature of the social construction’ of an understanding (Wegerif & Mercer, 1997, p. 52) was necessary. The findings of Phase Two in this DBR, in which children with LD in Phase Two were involved in more improvisation activities than participants in Phase One, supported this argument. There was no potential comparison among the phases. However, I found that dialogue-based activities (i.e. improvisation) made thinking invisible and allowed the children with LD to think. In a practical sense, this finding showed that dialogue-based activities could be used by teachers as part of their classroom activities to support not only learners' thinking skills but also their communications skills. Especially in Saudi Arabia, it would change the 'normal' direction of the classroom dialogue which might affect the learning environment and shift it from a traditional passive to a more learner centred classroom. Also, the use of DBR in researching thinking skills provided the opportunity to consider multiple possibilities and allowed investigating these possibilities in action. This latter, as an example, has shown the usefulness of the ongoing analysis and refining of DBR in relation to the rigour of defining and articulating the aspects of how creative drama can foster thinking skills of children with LD. Thus, this study suggests the use of more design-based research in studying thinking and thinking skills.

Even though the application of thinking skills was unclear to the participants, they managed each task well. The children with LD were never explicitly informed that, for example, this session would focus on this particular thinking skill. Indeed, they were aware that the Creative Drama Club was a place to think freely with an ongoing consent. Furthermore, one of the ground rules of *Storyland* was ‘think and share your thoughts’. However, the collaborative work required the individuals to discuss an idea, clarify their viewpoint, communicate their thinking and reasoning together to achieve the task (Davidson & Major, 2014). Having in mind the social and cognitive characteristics of the children with LD (see Section 2.8) – mainly limited communication, difficulties with peer relationship and their ‘poor self-esteem’ (Finson, Ormsbee, & Jensen, 2011, p. 10) – the data revealed that during the activities, whether in pairs or groups, children with LD managed to establish relationships with their peers and group facilitators and gather and share information. They showed responsibility and accountability towards their group, even though they were not used to it since the norm in Saudi for children with LD was to work individually with the teacher. This finding sheds light on the usefulness of the collaborative nature of DBR in the special education needs field. For that, practically speaking, one of the implications can be that, teachers might stepping out their role as ‘teacher’ and allow more room for learners’ agency through designing the classroom activity to be more collaborative in notion. In an inclusive learning setting, this can accommodate the differences of the learners ‘indirectly’ through giving them the chance to make joint decisions. Another implication is that, the previous examples have shown that DBR allowed the participants– including myself, to learn from our mistakes and provided the opportunity to have more than just one chance to learn.

Finally, the most visible practical outcome of this DBR are the design principles (see Section 6.3.1). The findings across the iterations suggested the effectiveness of using these principles in planning and implementing the session. The final version of the design principles was more grounded, more developed based on engaging the experience with the literature, and

more adaptable so teachers could guide any form of collaborative learning, especially in an inclusive context. This had a practical pedagogical implication for practitioners and suggested guidance for teachers who were interested in teaching thinking skills or using collaborative teaching approach to employ, rethink and revise this set of principles.

6.5. Limitations and suggestions for further research

The limitations of this study could be divided into two categories: methodological limitations (see Section 3.11) and limitations of the findings. In this section, I would discuss the limitations of the findings, identifying the areas that the findings could not explore and providing suggestions for further researchers.

- This DBR was a small-scale research project. It only investigated two schools with the help from two teachers and less than 15 children with LD. Even though the iterative notions provided me with an insightful overview and enabled me to explore many of the possible interrelationships within creative drama, any generalisation could not be made. In addition, even though, I was expected to conduct the study within an only female school (See Section 3.5.), I felt this fact limited the applicability of the design principles to be used in a male primary school in Saudi Arabia. However, the setting and the procedure had been thoroughly described, discussed and outlined in Chapter 4. Thus, teachers and researchers could decide whether this project was relevant to their context or not. Moreover, future research should use creative drama on a large-scale study.
- To ensure the validity level, this DBR was planned to be conducted each iteration in a different school, but I could not fulfil this plan. I approached three schools when I start the sampling process, however, one of the teachers who gave consent withdraw after planning the first session. According to here, creative drama requires time and effort, and she already has overload. Moreover, she did not give consent to use the data that had been gathered between her acceptance and declined. Hence the time was

limited as this research is a PhD thesis. I had to decide that I will conduct Iteration Two and Three at the same school.

- Using DBR provided me with a massive amount of data, even with a limited time as a PhD focusing on the interactions, discourses and all forms of actions of children with LD that indicated that thinking was happening. I had to limit the teacher's data to only what was related to the learning process of the children with LD and eliminate others such as the planning process and their perceptions towards teaching thinking or collaborative learning. Thus, future researchers should explore how teachers feel as creative drama facilitators in an inclusive learning context, focusing on thinking skills.
- Although the current thesis involved the voice of children with LD in using creative drama, I never explicitly discussed thinking skills directly with the children. For example, in each focus group, the children and I discussed the experiences within creative drama without directly mentioning 'thinking skills' or the type of skills that we were focusing in the session. However, the children seemed to be aware of practising thinking via creative drama activities. Understanding how the thinking skills of children with LD might be fostered through creative drama by informing the children and considering their voice in terms of their skills would be interesting.
- Drama education did not exist in Saudi, and the activities were used to some extent in the Saudi context. However, a toolkit and an introduction week were dedicated to introducing teachers to use creative drama. There were always situations where the teacher and I had to invest more time to think of practicality. Thus, future researchers in drama education should investigate employing a creative drama expert instead.
- In Section 3.11, I mentioned that the use of video recording as a data collection method was restricted by the Saudi Ministry of Education, and the ways in which that prevented the investigation of multi-modality and embodied cognition. Thus, future researchers in education, especially in teaching thinking skills, might recognise the

advantages that the use of video would provide in studying embodied cognition and any form of multi-modal pedagogy.

6.6. Final remarks

This project started as a simple wonder from an inexperienced teacher and turned out to be a huge opportunity for me to gain an extremely valuable experience for my future career as a researcher. Working in two different schools with two experienced teachers who interact and participate closely with children with LD widened my viewpoint about learners with LD and enhanced my understanding of teaching thinking skills and creative drama.

As a researcher, the general findings of this project suggested the benefits of using creative drama to create a learning environment that supports learning thinking skills for children with LD. After all these cycles had been conducted, this DBR showed that thinking skills could be taught to children with LD. Their participation in creative drama activities, whether in pairs or in a small or large group, was productive and sufficiently indicated possibilities of practising and communicating thinking, which I discussed in this thesis. However, teachers, especially for children with LD, focused on the academic-skill development (i.e. reading and writing) and tended to assume that thinking is naturally developed as a part of the learning process and that students would know how to think and use thinking skills. Therefore, children were explicitly trained in ‘how to use thinking skills’.

As teachers, we would tend to hold on our authority in our classroom. This would limit our engagement and interaction with the learners. However, classroom experiences of learners with LD might not involve much of practicing thinking skills and collaboratively communicating their thoughts with their peers or teachers. Moreover, children, in general, might not be aware that in a classroom, there are many different ways to think, share ideas and interact skilfully with others. The findings of this study showed that not only the discourse practices but also the way that the sessions, interactions and relationships among the participants have been designed and embedded were ways to foster thinking through creative

drama activities. Thus, within an appropriate and balanced learning environment that valued children's voice and provided them with various participation choices, children would be indirectly trained to thinking.

As a person, my passions, beliefs and assumptions were a big part of this project. However, using DBR was the right choice to limit their influence. The iterative nature insightfully guided me to understand how many aspects were involved in the teaching and learning of thinking skills. It provided me with the understanding that if thinking could be taught to children with LD as this thesis argued, the bulk of this process lay on creating a collaborative, dynamic and democratic learning culture that could adapt to all differences.

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Appendix 1

The Approaches to Teach Thinking as Meta-Theories or Meta-Programs

Characteristics of the Approaches	The Skills Approach	The Dispositions Approach	The Understanding Approach
The foundational element of good thinking	Skills: Thinking tools used efficiently—quickly and precisely—in given circumstances.	Dispositions: Motivation for good thinking formed by reasonable choices.	Understanding: The ability to locate a concept in a context of other concepts, to implement concepts in new contexts, and to perform thinking processes with knowledge.
Types of foundational elements	Neutral skills; Normative skills	Thinking dispositions; Disposition to think	Substantive understanding; Reflective understanding
Patterns of teaching	Impartation	Cultivation	Construction
Ideologies: "the good thinker"	Efficient thinker	Wise thinker	Learned thinker
Typical thinking shortfalls	Faults	Weaknesses	Misunderstandings
Metacognition	Skill	Disposition	Understanding
Intelligence is comprised of:	Skills	Dispositions	Understandings
Attempt at reductionism	Disposition and understanding are included in skill	Skill and understanding are included in disposition	Skill and disposition are included in understanding
Metaphors for thinking	Toolbox	Deep currents	Net
"Standard deviation"	Taming	Preaching	Lecturing
Theories, programs, ideas—examples	De Bono—CoRT Ennis—Taxonomy of critical thinking Beyer—Direct teaching of thinking Perkins—Thinking frames Perkins & Swartz— Graphic organizers Swartz & Parks— Infusion Sternberg— Intelligence implied Treffinger, Isaksen & Dorval—Creative problem solving Johnson & Blair—Informal logic Chaffee—Thinking critically Whimbey & Lochhead— Problem solving Feuerstein— Instrumental Enrichment Lipman—Philosophy for children	Perkins—Dispositions theory of thinking Tishman—Thinking dispositions Costa—Habits of mind Baron—Theory of rationality Langer— Mindfulness Barrel— Thoughtfulness Facione—Critical thinking dispositions Passmore—Critical thinking as a character trait Siegel—The spirit of the critical thinker Sternberg— Successful intelligence Golman—Emotional Intelligence Lipman—Philosophy for children	Perkins— Understanding performances Gardner— Understanding in the disciplines Wiske—Teaching for understanding Wiggins & McTighe —Understanding by design Paul—Critical thinking in the strong sense McPeck—The reflective critical thinker Brown—Community of learners Smith—Understanding as good thinking Brooks & Brooks— Constructivist instruction Lipman—Philosophy for children Harpaz—Community of thinking

Harpaz, Y. (2007). Approaches to Teaching Thinking: Toward a Conceptual Mapping of the Field. *Teachers College Record*, 109(8), 1845-1874.

Appendix 2

Goals and Objectives of Education in Saudi Arabia

Foundation Aims of Saudi education:

- (1) To encourage an integral Islamic concept of life, mankind and the universe.
- (2) To stress that in this life on Earth every human being invests their capacities with a complete comprehension of and faith in the after-life.
- (3) To encourage faith in human dignity as set out in the Quran and to cooperate with other countries in the interests of justice and peace.
- (4) To stress the importance of scientific knowledge in constructing a new society and fostering various kinds of thinking in young people.
- (5) To judge theories and applications of science and knowledge from an Islamic viewpoint.
- (6) To benefit from all types of human knowledge and experiences.
- (7) Science and technology are the most important means of cultural, social, economic and physical development.
- (8) Align all the stages of education with the state's general development plan.
- (9) Encourage interaction with other countries while remaining cautious.
- (10) Offer individuals opportunities to develop and take part effectively in the development of their communities.
- (11) To stress the right of females to have the same educational opportunities as males.
- (12) Arabic should be the language of instruction at all stages unless requirements necessitate the use of another language.

(The Ministry of Education, 1970)

In the light of these principles, the MOE (1970) identified the following goals:

- 1-The student must be provided with the necessary information and skills to become a worthwhile member of society.
- 2-The students' feelings about society's problems (e.g. social, economic and cultural) and to assist in resolving them.
- 3-Individuals' dignity must be reinforced and he/she must be given equal opportunities to develop his/her skills to participate in the development of the country.
- 4-To encourage the ethos of scientific thinking and research, reinforcing observation
- 5-and to inform the student about God's miracles and wisdom in order to orient social life in the right direction.
- 6-To teach students about great achievements in literature, science and other fields, showing that scientific progress results from the efforts of all mankind.
- 7-Mathematical thinking, arithmetical skills, reading skill and reading habits should all
- 8-be developed and the student should be trained in the use of the language of figures and its uses in the scientific field.
- 9-To teach students to express themselves correctly in speech and in writing.
- 10-To teach students at least one foreign language so they can benefit from it.
- 11-To view each student as an individual and to be able to direct them and help them to grow in a way best suited to their abilities.
- 12-To allow students to have the opportunity to do manual work and gain experience in laboratories, building and agricultural work.
- 13-To study the scientific principles of various activities in order to encourage progress and innovation in mechanical production.

Ministry of Education. (1970). Educational Policy in the Kingdom of Saudi Arabia. Riyadh, Saudi Arabia.

Appendix 3

Eligibility for Admission to The Learning Disability Program (Arabic version)

أهلية الطالب للقبول في برنامج صعوبات التعلم:

١. أن يكون لدى التلميذ تباين واضح بين مستوى قدراته ومستوى تحصيله الأكاديمي في أحد الجوانب التالية :
٢. التعبير اللفظي، الإصغاء، الاستيعاب اللفظي، الكتابة، القراءة، استيعاب المادة المقروءة، العد، الاستدلال الرياضي، أو أن يكون لديه اضطراب في إحدى العمليات النفسية مثل الذاكرة، الانتباه، التفكير والإدراك.
٣. أن لا تكون الصعوبات ناتجة عن عوق عقلي أو اضطراب سلوكي أو أسباب حسية أو أية أخرى لها علاقة بعدم ملاءمة ظروف التعلم أو الرعاية الأسرية .
٤. أن يثبت أن الخدمات التربوية العادية غير ملائمة أو قليلة الفاعلية في تعليم هؤلاء التلاميذ مما يتطلب توفير خدمات تربوية خاصة .
٥. أن يكون قد تم تشخيص التلميذ من قبل فريق متخصص .
٦. موافقة اللجنة الخاصة بقبول وتصنيف الأطفال ذوي صعوبات التعلم التي يرأسها مدير المدرسة أو من ينوب عنه ويشترك فيها كل من :
 - معلم التربية الخاصة (مسار صعوبات التعلم) .
 - المشرف على برنامج التربية الخاصة .
 - معلم الفصل العادي .
 - معلم تدريبات سلوكية (أخصائي نفسي) .
 - مرشد طلابي أو أخصائي اجتماعي .
 - ولي أمر التلميذ إن أمكن .
 - التلميذ ما أمكن.

Ministry of Education. (2002). القواعد التنظيمية لمعاهد و برامج التربية الخاصة. Riyadh, Saudi Arabia.

Appendix 4

A Letter From The Saudi Arabian Cultural Bureau in London Directed to The Ministry of Education

ROYAL EMBASSY OF SAUDI ARABIA
CULTURAL BUREAU
LONDON

المملكة العربية السعودية
المحقة الثقافية
لندن

تاريخ: 05/09/1437 هـ

إفادة

رقم الملف: KAU1412

تفيد المحقة الثقافية بفسارة المملكة العربية السعودية في لندن بأن /
اروى مسفر مرزوق الحارثي ([REDACTED]) مبعثت من قبل
[REDACTED] لدراسة الدكتوراه بجامعة Exeter إعتباراً من
1435/08/21 هـ الموافق 2014/06/19 م حتى 438/11/07 هـ الموافق 2017/07/30 م.
ويرافقها ابوها مسفر مرزوق محمد الحارثي ([REDACTED]) ووفقاً لما
هو موضع بنظام سفير الدراسي بالمحقة.
وقد أعطيت هذه الإفادة بناءً على طلبها لتقدمها إلى وزارة التعليم - إدارة التعليم بمحافظة [REDACTED]
وتقبلوا فائق التحيات،،

القائم بأعمال المحقة الثقافية
بفسارة المملكة العربية السعودية في لندن
د.فهد بن عبدالله بن محمد النعيم

الرقم: التاريخ: الموافق: المرفقات:

630 Chiswick High Road, London W4 5RY Tel: +44 (0) 20 3249 7000 Fax: +44 (0) 20 3249 7001 E-mail: sacbuk@uksacb.org
www.uksacb.org

Appendix 5

The Ethics Committee Approval at The University of Exeter



**COLLEGE OF SOCIAL SCIENCES
AND INTERNATIONAL STUDIES**

Amory Building
Rennes Drive
Exeter UK EX4 4RJ

www.exeter.ac.uk/socialsciences

CERTIFICATE OF ETHICAL APPROVAL

Academic Unit: Graduate School of Education

Title of Project: The Role of Creative Drama in Enhancing and Stimulating Thinking Skills in Children with Learning Difficulties

Research Team Member(s): Arwa Mesfer Alharthi

Project Contact Point: Aa573@exeter.ac.uk

Supervisors: Prof. Hazel Lawson; Dr Judith Kleine Staarman

This project has been approved for the period

From: 20th October 2016
To: 30th September 2019

Ethics Committee approval reference: 201617-001

Signature:

Date: 20th October 2016

A handwritten signature in black ink, appearing to read 'Lise Storm', with a small circular stamp or mark below the name.

(Lise Storm, Chair, SSIS College Ethics Committee)

Appendix 6

Teacher Consent Form for Research and Leaflet (English version)



RESEARCH PROJECT INFORMATION LEAFLET FOR TEACHER

Creative Drama Club: Thinking Skills Program

Enhancing thinking skills for children with learning difficulties

This project focuses on teaching thinking skills and seeks to understand how the thinking skills of children with learning difficulties might be enhanced through the use of creative drama.

This project will take part as extra curricula activity that will be held during the school time. The project will be presented to the parents and the children as a Creative Drama Club. The duration of the club will be around 10 weeks with a one session per week.

As a researcher with an interest in teaching thinking for children with learning difficulties, I would like to ask you to take a part in the creative drama club. The sessions will be led by you (the name of the teacher) and me, Arwa Alharthi.

Who I am

I am a thinking skills lecturer at [REDACTED] who sponsor me to do this research. Currently I am a PhD student at the University of Exeter.

What your participation will involve

I anticipate that each session of the creative drama club will take about 40-45 minutes. It will be mainly focused on fostering thinking skills through creative drama activities. There will be discussion between you and myself before and after each session in order to discuss, reflect on and amend the session plans. The discussion will be totally about the session and how we (you and I) might change it in order to further benefit the children; I anticipate that each conversation will take less/more 40-45 minutes.

Please take note that, I would like to video record all the creative drama sessions, so I have a record of the session. Moreover, all the conversations will be recorded on recording device. The video and audio will only be shared with my supervision team if that needed and will only be used for the purposes of the research project only.

Additionally, all information will be collected for the purposes of the research project only. This may be in the form of ongoing reports for my supervisor, journal publication, conference participation and the final thesis. All schools and participants will be anonymised and all information will be confidential.

If you have any further questions, please do not hesitate to contact me or my supervisor

Arwa Mesfer Alharthi

PhD. Student
Graduate School of Education
University of Exeter, St. Luke's Campus.
Heavitree Road, Exeter EX1 2LU



Professor Hazel Lawson

[REDACTED]
Special and Inclusive Education
University of Exeter, St. Luke's Campus.



TEACHER CONSENT FORM FOR RESEARCH

The Role of Creative Drama in Enhancing and Stimulating Thinking Skills in Children with Learning Difficulties

Details of Project

This project is about enhancing thinking skills for children with learning difficulties through the use of creative drama. I am a lecturer at [REDACTED] and a current PhD student at University of Exeter my research interest is teaching thinking skills for children with learning difficulties. However, Children naturally play and pretend and what more is they learn through their playing. Her, in this project I will focus on teaching thinking skills through the process of creative drama as form of play. The project will have introduced to the children as an extra activates which will be held during the school time and the children will be part of creative drama club. For more details of the project please see the project leaflet.

What I will do with the data

- The information you provide will be used for research purposes and your personal data will be processed in accordance with current data protection legislation and the University's notification lodged at the Information Commissioner's Office.
- Your personal data will be treated in the strictest confidence and will not be disclosed to any unauthorised third parties. The results of the research will be published in anonymised form.
- All the record (video and audio) will be saved at my own computer which no one has an access to, moreover, the file will be protected by password.
- All the record (video and audio) will be destroyed after finishing the research project completely.

Contact Details

For further information about the research, please contact:

Arwa Mesfer Alharthi

University of Exeter, St Luke's Campus
Heavitree Road, Exeter, EX1 2LU,

Tel: [REDACTED]

Email: [REDACTED]

Or contact or my supervisor

Professor Hazel Lawson

Director of Education
Special and Inclusive Education
University of Exeter, St. Lukes' Campus
Heavitree Road, Exeter EX1 2LU

Tell: [REDACTED]

Email: [REDACTED]



Consent

I have been fully informed about the aims and purposes of the project.

I understand that:

- There is no compulsion for me to participate in this research project and, if I do choose to participate, I may withdraw at any stage;
- I have the right to refuse permission for recording (video and audio) me in this research project, if I do choose to participate.
- I have the right to refuse permission for the publication of any information about me;
- Any information which I give will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations;
- If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form;
- All information I give will be treated as confidential;
- the researcher(s) will make every effort to preserve my anonymity.

.....
(Signature of participant)

.....
(Date)

.....
(Printed name of participant)

.....
(Printed name of researcher)

.....
(Signature of researcher)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher(s).
Your contact details are kept separately from your interview data.

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Teacher Consent Form For Research And Leaflet (Arabic version)



نشرة معلومات حول المشروع للمعلمات

نادي الدراما الإبداعية: برنامج مهارات التفكير لتعزيز مهارات التفكير عند أطفال ذوي صعوبات التعلم

هذا المشروع يركز على تعليم مهارات التفكير، كما يسعى إلى معرفة مدى إمكانية تعزيز مهارات التفكير عند أطفال صعوبات التعلم من خلال استخدام الدراما الإبداعية، وسوف يقدم كمنشآت دراسية إضافية خلال فترة الدوام الرسمي للمدرسة بسمى نادي الدراما الإبداعية، ومدته المقدرة 5 أسابيع بمعدل ورشة عمل واحدة لكل اسبوع.
بصورتى باحثة مهتمة في تطوير وتدريب مهارات التفكير للأطفال في المرحلة الابتدائية وخاصة للأطفال ذوي صعوبات التعلم، أربب بدعوتكم لتكونوا جزء من نادي الدراما الإبداعية، حيث أن النادي سيقام خلال اليوم الدراسي وستقاد ورش العمل والأنشطة بالتعاون بين حضرتكم.

من أنا:

أروى مسفر الحارثي، محاضرة مهارات [REDACTED] حيث أنها الداعمة لي للقيام بهذا البحث، أما في الوقت الحالي فأنا طالبة دكتوراه مبتعته إلى جامعة أكستر ببريطانيا. حيث أن هذا النادي له علاقة بموضوع بحثي والذي يتركز محوره حول إمكانية تعزيز مهارات التفكير لدى الأطفال ذوي صعوبات التعلم من خلال استخدام الدراما الإبداعية.

ما الأمور التي تنطوي عليها مشاركتك:

المدة المتوقعة لورشة العمل لنادي الدراما هي 40-45 دقيقة. وهذه الورش سوف تركز بشكل رئيسي على تعزيز مهارات التفكير من خلال استخدام الدراما الإبداعية وسوف يكون هناك نقاش بينك وبينى قبل وبعد الحصص بغرض النقاش ورؤية الانعكاسات على الحصص ومن ثم التعديل على خططها. المناقشات سوف تكون بشكل تام بخصوص الحصص وكيف من الممكن أن نتعاون مع بعضنا البعض من أجل أي تغيير يهدف إلى فوائد مستقبلية للأطفال، لذلك من المتوقع أن كل جلسة نقاش سوف تستغرق أكثر دقيقة.

ملاحظة.. الرجاء الأخذ بالحسبان ذلك: جميع ورش العمل والأنشطة الخاصة بنادي الدراما الإبداعية سوف يتم تسجيلها بالصوت والصورة (فيديو)، كما هو الحال في المقابلات والنقاشات سوف يتم تسجيلها بجهاز خاص للتسجيل. وهذه التسجيلات سوف يتم تداولها فقط مع فريق الاشراف الدراسي في حال احتياجها، مع العلم بأن كل هذا فقط من أجل أغراض البحث العلمي.

بالإضافة إلى ذلك، كل المعلومات التي سوف يتم جمعها سوف تستخدم فقط لأغراض البحث العلمي، والتي قد تشمل تقارير مقدمة للمشرفة الدراسية، أو النشر في المجلات العلمية، أو المشاركة في المؤتمرات العلمية وبحث الدكتوراه. مع العلم بأن جميع أسماء المدارس وأسماء المشاركات في البحث الحقيقية لن تتدرج في البحث أو في أي من الأنشطة العلمية المذكورة سلفا.

في حال وجود أي أسئلة الرجاء عدم التردد في التواصل معي شخصيا أو مع المشرفة على البحث.



أروى مسفر الحارثي
جامعة اكستر - *St Luke's Campus*
Heavitree Road, Exeter, EX1 2LU,
الجوال البريطاني: [REDACTED]
الجوال السعودي: [REDACTED]
البريد الإلكتروني: [REDACTED]

وللتواصل مع المشرف الدراسي:
برفسور: *Hazel Lawson*
رئيس قسم التربية - بجامعة اكستر
التربية الخاصة والشاملة
جامعة اكستر - *St Luke's Campus*
Heavitree Road, Exeter EX1 2LU
الهاتف الدولي: [REDACTED]
البريد الإلكتروني: [REDACTED]

دور الدراما الإبداعية في تعزيز وتحفيز مهارات التفكير عند أطفال صعوبات التعلم

معلومات عن المشروع:

هذا المشروع يبحث عن إمكانية تعزيز مهارات التفكير عند أطفال صعوبات التعلم من خلال استخدام الدراما الإبداعية، مع العلم بأن الباحثة هي محاضرة بجامعة جدة وطالبة دكتوراه حالياً في جامعة أكستر ببريطانيا. وينصب اهتمام هذا المشروع حول تعليم مهارات التفكير عند أطفال صعوبات التعلم من خلال الدراما الإبداعية واللعب الجماعي، حيث أن الأطفال بطبيعتهم يميلون إلى اللعب استخدام استراتيجيات وتمثيل الأدوار إضافة لذلك فإن الأطفال يتعلمون ويكتسبون مهارات كثيرة من خلال اللعب. لذلك هذه الدراسة تركز على تدريس مهارات التفكير من خلال عملية الدراما الإبداعية كشكل من أشكال اللعب. سوف يقدم المشروع كنشاط إضافي وسيعقد أثناء دوام المدارس، كما سيشكل الأطفال جزء من نادي الدراما الإبداعية. لمزيد من المعلومات الرجاء الاطلاع على نشرة المشروع.

ما الذي سوف يتم فعله بالبيانات:

- * المعلومات المقدمة سوف يتم استخدامها فقط لأغراض البحث العلمي، وفيما يتعلق بأمر المعلومات الشخصية سوف يتم معالجتها وفقاً لقانون حماية البيانات حيث ان جامعة أكستر مسجلة لدى مكتب مفوض حماية البيانات.
- * البيانات الشخصية سوف يتم التعامل معها بسرية تامة ولن يتم الكشف عنها لأي طرف ثالث، والنتائج سوف تنشر بشكل مشفر أي بدون ذكر الاسم الحقيقي للمشاركة.
- * كل التسجيلات (المسموعة والمرئية) سوف يتم حفظها في الجهاز الخاص بي وسوف تكون محمية بكلمة مرور، وبالتالي لن يستطيع أي شخص الوصول إليها.
- * كل التسجيلات (المسموعة والمرئية) سوف يتم التعامل معها بسرية تامة ولن يتم مشاركة أو عرض التصوير لأي أحد نهائياً حتى مشرفة البحث في حال لزم ذلك.
- * كل التسجيلات (المسموعة والمرئية) سوف يتم التخلص منها بعد الانتهاء من المشروع.

بيانات التواصل:

لمزيد من المعلومات حول المشروع، الرجاء التواصل:

أروى مسفر الحارثي

جامعة أكستر - St Luke's Campus

Heavitree Road, Exeter, EX1 2LU,

الجوال البريطاني:

الجوال السعودي:

البريد الإلكتروني:

وللتواصل مع المشرف الدراسي:

برفسور: Hazel Lawson

رئيس قسم التربية - بجامعة أكستر

التربية الخاصة والشاملة

جامعة أكستر - St Luke's Campus

Heavitree Road, Exeter EX1 2LU

إفادة بالموافقة

لقد تم تزويدي بكافة المعلومات حول أهداف وأغراض هذا المشروع، وقد فهمت التالي:

- * أنني لست مجبرة على المشاركة في هذا المشروع، وفي حال مشاركتي لدي كامل الحق في الانسحاب من المشروع في أي مرحلة.
- * لدي كامل الحق في رفض التسجيل الصوتي والمرئي، في حال قررت المشاركة في هذا المشروع.
- * لدي كامل الحق في رفض نشر أي معلومات تتعلق بي.
- * أي من المعلومات معطاة سوف يتم استخدامها فقط لأغراض البحث العلمي التي قد تشمل النشر العلمي أو المشاركة في مؤتمرات أو ندوات علمية.
- * في حال الرغبة بتبادل ومشاركة المعلومات المعطاة مع باحثين آخرين أو مشاركين في هذا المشروع سيتم ذلك بدون ذكر الاسم الحقيقي.
- * سيتم التعامل مع المعلومات المعطاة بكل سرية تامة.
- * الباحثة ستعمل جاهدة على الحفاظ على هويتي.

توقيع المشاركة

التاريخ

اسم المشاركة

اسم الباحثة

توقيع الباحثة

تحصل المشاركة على نسخة من هذه الاستمارة، والنسخة الثانية يتم الاحتفاظ بها من قبل الباحثة، وفيما يخص بيانات الاتصال الخاصة بالمشاركين سوف يتم الاحتفاظ بها بشكل مستقل عن بيانات المقابلة.

قانون حماية البيانات: تلتزم جامعة اكستر بحماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات 1998، كونها مسجلة لدى مكتب مفوض حماية البيانات. المعلومات المقدمة سوف تستخدم لأغراض البحث فقط وسوف يتم معالجتها وفقا لتسجيلات الجامعة وقانون حماية البيانات الحالي. نؤكد على سرية البيانات ولن يتم الكشف عنها لأي طرف ثالث ما لم يتم الاتفاق عليه من قبل. التقارير سوف تستند على بيانات مشفرة أي بدون ذكر الأسماء الحقيقية للمشاركين.

Appendix 7

A Glance of The Creative Drama Club Activities



تأليف: مجموعة تاري الزواجا

اعني الأعتام الكذاب

بخرج بينتاركن هباح

بجر- بادلمناه اعلى جبل

أرغل قتال في أهل القرية

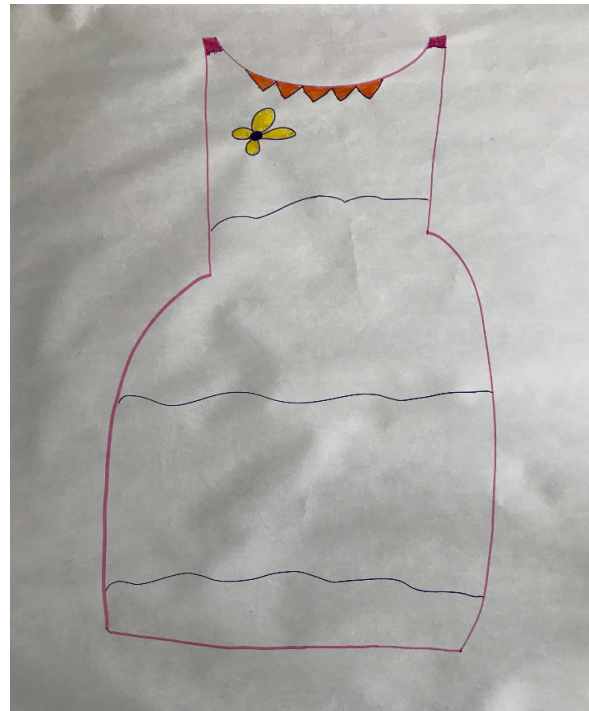
صرخ بأهل هونه وهو كاذب
أن الذين بكل الأعتام
صنادق طليهم

سلوان عتامة ولهم
وأ صرخ حتى نفاوة
ليس لحد أ صفاة

د زعب إيعم ولم
لهم ب أ حد

فصوخ وبتاديا أهل
القرية

نجاه شعور الذهب
صنصص يا خوف وده



Appendix 8

The Arabic Version of The Extracts

اقتباس ٤.١: مصدر الصورة

سارة: بعد هذا، تقدرنا تتوقعوا مصدر الصورة؟

طفلة: اشتريتها من المكتبة؟

فاطمة: ممكن تكوني طبعتها من كتاب.

سارة: لماذا فكرتوا في هذا؟

فاطمة: إذا تطالعي في الصورة، فيها خطين - الخط الأزرق تحت الصورة والخط الغامق في وسط

الصورة، هذي الخطوط تبان بس إذا طبعنا الأشياء من الكمبيوتر.

سارة: هذا سبب جداً ممتاز ومقنع، في أحد عنده رأي مختلف؟

رزان: ممكن تكوني رسمتها.

فاطمة: لا، الصورة من كتاب

رزان: ممكن انها تكون رسمتها لأنها رسمة جافة.

لينا: وكمان ماهي صورة حقيقية.

سارة: كلها ممكنة، تذكرنا كل الإجابات مقبولة.

رزان: لكن لمن أنا رسم، استخدم القلم الأسود للتحديد عشان كذا الرسمة شكلها مرة جيد كأنها

صورة.

(الجلسة، الدورة الأولى، التكرار الأول)

اقتباس ٤.٢ : وجبة ماكدونالدز

سارة: أنتم ايش كمجموعة بالضبط؟ ما عرفت!

لينا وأمل: احنا هابي ميل (Happy Meal) من ماكدونالدز.

سارة: أي نوع وجبة أنتم؟ ماكدونالدز عنده وجبات واختيارات كثيرة.

أمل: احنا بيرجر وبطاطس مقلية.

لينا: أنا البطاطس وهيا البيرجر.

سارة: أي نوع بيرجر؟ دجاج، لحم، أو سمك؟

أمل: أنا بيرجر لحم.

لينا: لا، أنا أحب الدجاج.

أمل: لكن أنا البيرجر مو انت.

سارة: اعملوا كمجموعة، فكروا مع بعض وقرروا... في الوقت الي انا وأروى نشوف

المجموعات الثانية.

سارة: (بعد التحدث مع بقية المشاركين) هل الجميع هنا أكل صحي؟

لينا: لا، ماما قالت وجبات ماكدونالدز ماهي صحية.

طفلة: مو بس ماكدونالدز، كل الوجبات السريعة تعتبر غير صحية.

فاطمة: لكن ما يمنع ان الواحد يأكلها مرة في الأسبوع.

جود: او في الشهر او السنة (ضحك الجميع).

لينا: لا، أنا أحب اكله كل يوم، بعدين هو اكل صحي لأن فيه لحم وخس وطماطم وكلها صحية،

صح؟

سارة: كل يوم مره كثير يا لينا.

(الجلسة، الدورة الثالثة، التكرار الأول)

اقتباس ٤.٣ : الحركة البدنية

أنا: لماذا هذي الأنشطة؟

أمل: لأننا نتحرك كثير، ونضحك كثير، والمعلمة تلعب معنا.

رزان: الصورة الثابتة هي أفضل لعبة على الاطلاق.

أنا: طيب، بما انها أفضل لعبة على الاطلاق، عندي ثلاث أسئلة نناقشها كمجموعة: أول سؤال، ما

السبب انه أفضل نشاط؟

رزان: لأننا نتحرك مره كثير.

أنا: طيب، هذا سبب من الأسباب، ممكن تسمعوا الأسئلة الثلاثة ونناقشها مع بعض مره وحدة

ونجاوبها. الأول كان عن الأسباب، والثاني " فين ممكن نستخدمه؟"، والثالث " ما الأشكال الأخرى الي

ممكن أن نقوم بعملها غير الأشكال السابقة؟" .. يلا، خلونا نتكلم مع بعض.

جود: عجبتي اللعبة لأننا نفكر في الشكل وبعدين نسويه.

أنا: هذا سبب جيد، ايش كمان؟

رزان: لعبنا مع بعض.

لينا: كمان، ضحكنا مره كثير.

أنا: ايش كمان صبايا؟ حنين وأمل؟

حنين: ما أعرف (هزت كتفيها واستمرت في العمل)

أمل: قالوا كل الأسباب.

لينا: مس، ممكن نسويها الان؟

أنا: ايش؟

لينا: اللعبة.

أنا: طيب، اقترحوا لي بعض الأشكال أو الأشياء الي ممكن نجسدها.

(مجموعة التركيز، المدرسة أ)

اقتباس ٤.٤: فروزن *Frozen*

نوره: ما رأيك؟

لمى: لأنها خائفة.

أنا: خائفة من ايش!

لمى: ما اعرف (هزت اكتافها)

أنا: أي أحد ثاني عنده رأي

(لا أحد أجب).

نوره: انا مع لمى، إلسا ممكن تخاف انها تخسر اختها.

طفلة: هيا أصلا حابسة نفسها في الغرفة، عشان كذا ما يفرق إذا أنا أتزوجت.

لمى: لكن هيا تحب اختها.

أنا: اتفق معاك، هيا تحب اختها.

ريم: انا اعتقد الساما عجبها هانز.

هنا: لا، هيا ما تعرفه عشان كذا هيا ما وافقت عليه. لأنها بعدين لمن تعرفت كرستوفر وافقت

عليه وما قالت شيء عن صداقتهم او خطبتهم.

أنا: طيب، هل المشكلة في هانز او طريقة الخطبة؟

طفلة: أتوقع الطريقة.

نوره: انا كمان.

(الجلسة، الدورة الأولى، التكرار الثاني)

اقتباس ٤.٥: مريح

أنا: تكلمتم عن انكم تحسوا بالراحة في النادي، هل كلكم مرتاحين؟

(الجميع أجاب نعم)

أنا: ايش الي خلاكم مرتاحين؟

نوف: نلعب كثير.

ريم: صحيح، وما نوقف ابدأ.

أنا: يعني اللعب طول الوقت يخليكم مرتاحين؟

طفلة: احنا نضحك ونلعب مع بعض.

نوف: وكمان مبسوطين طول الوقت مع بعض في ارضنا ارض القصص.

اقتباس ٤.٦ : ما الذي يحبونه

أنا: اوكي، هذه نقطة ممتازة، ايش كمان؟
طفلة: هنا احنا نتقسم لمجموعات ونفكر مع بعض.

أنا: والتفكير مع بعض شيء جيد؟!

طفلة: يس.

أنا: ليش؟

طفلة: لأن احببنا صاحبتي تعرف إجابات انا ما اعرفها وهذا الشيء مره يساعد.

أنا: وايش رأيكم في هذا؟ عن التفكير مع بعض؟

لمى: شيء يقوي ويساعد في انه نخلص النشاط.

أنا: لمى، ليش تتوقعي انها تقويك؟

لمى: زي ما قالوا اول، كل وحده تعرف شيء غير وهذا يخلينا نساعد بعض.

اقتباس ٤.٧ : لا تردد

نوف: ما نتردد ابداً نقول أي شيء.

أنا: ليش نوف؟

نوف: لأن محد ابداً يضحك عليك حتى إذا قلنا شيء تافه، عشان كذا ابداً ما راح أبطل.

أنا: ايش كمان؟

طفلة: كمان كل الإجابات مقبولة وصحيحة، ومحد يضحك عليك أكثر شيء احبه.

اقتباس ٤.٨ : القوانين

نوره: بالإضافة الى اللعب، ما الذي ساعدكم على الشعور بالراحة؟

جنى: ما في أحد يضايقتنا أو يتريق علينا.

نوف: أي أحد يقدر يقول أي شيء حتى الي يستحي.

مريم: ما في أحد يستحي.

اقتباس ٧.٦ : التقويم

جنى: على الشاطئ، كيف لو كان العاب مائية؟

أنا: روعة، فكروا مع بعض عشان توصلوا لقرار

طفلة: خلونا نفكر في الأدوار؟

طفلة: كيف نفكر فيها قبل ما نقرر الموضوع!

مريم: كيف لو غيره لحديقة حيوانات.

(الجلسة، الدورة الثانية، التكرار الثاني)

اقتباس ٤.١٠ : رجال الإطفاء

مريم: أتوقع رجال الأطفال ما كانوا موجودين من بداية القصة.

هند: ليش؟ (كانت قد اقترحت في السابق أن رجال الإطفاء كانوا على الشاطئ للسباحة

والاستمتاع بوقتهم).

مريم: لأن معهم شاحناتهم وادواتهم.

طفلة: صح مريم، ليش حتكون معهم الأدوات إذا كانوا بس يسبحوا؟

أنا: هذا مثير للانتباه، لكن مين الي اتصل عليهم؟ (بعد دقيقة صمت)

مريم: العائلة الي في الخلف هي الي اتصلت.

أنا: لماذا؟

مريم: لو شفت الصورة، راح تعرف انهم اول من كانوا هنا. وهذا يخليهم أول من لاحظوا ان

الموجات تتحرك بقوة والتغير في المويه، عشان كذا هم الي اتصلوا.

(الجلسة، الدورة الأولى، التكرار الثالث)

اقتباس ٤.١١ : طلب مساعدة

طفلة: رتبي كل البطاقات عشان نقدر نقارنها.
نوف: مس، البطاقات تورينا كل القصة صح؟
أنا: غير متأكدة (توقفت لثواني) فكروا مع بعض لتوصلوا للاستنتاج.
جنى: شوفي، هذا فيه اغنام وهذا ما فيه.
طفلة: صح، هذا كمان فيه اغنام.
نوف: لازم نرتب الصور عشان نفهمها.
هند: من جد، خلونا نشوف كل الصور أول.
جنى: بعضها فيه أغنام وبعضها لا.
طفلة: أنا أتوقع انه راعي اغنام، لأنه قالنا ان صديقه المفضل هو خرفانه.
نوف: الراعي خسر أغنامه لأن البوابة مفتوحة.
طفلة: في بطاقة ناقصة.
نوف: لا، شوفي الأماكن ماهي نفسها.
نوره: غير الأماكن، فكروا في الاختلافات بين البطاقات، مثلاً الشخصيات والأوقات على البطاقات.

(الجلسة، الدورة ٦، التكرار الثالث)

اقتباس ٤.١٢

نوف: في الفصل، ما نقدر نتكلم او نتحرك ونمشي في الفصل زي هنا
جنى: ولازم نخلص ورقة العمل.
طفلة: احنا نحب نادي الدراما عشان يمدينا نختار النشاط.

اقتباس ٤.١٣

أنا: كيف قررتوا ان الظرف ما فيه معلومات كافية؟

طفلة: شفنا كل الصور وتكلمنا.

مريم: استخدمنا ادماغنا.

نوف: مس، احنا عرضنا كل الصور وتكلمنا عنها، بعدين.. (توقفت لبعض ثواني)

طفلة: بعدين قارنا الصور.

نوف: صح، بعدين فكرنا مع بعض في ترتيبها الصحيح.

اقتباس ٤.١٤

أنا: لماذا أحببته؟

نوف: نلعب طول الوقت.

مريم: نستخدم دماغنا.

هند: نلعب كثير.

أنا: ايش تقصدوا باستخدام عقلكم؟

طفلة: "كل شيء صحيح"، احنا نقدر نسوي ونقول أي شيء نتوقعه صحيح، وبعدين يمدينا نغيره

مع بعض.

Appendix 9

A Screenshot of The Backup Descriptive Note in NVivo

The screenshot displays the NVivo software interface. On the left, a sidebar shows a hierarchical file structure under 'DATA', including folders for 'Files', 'Journals', 'File Class...', 'Externals', 'CODES', 'CASES', 'NOTES', 'SEARCH', and 'MAPS'. The main window shows a document titled 'Week 2, School A-' with the following content:

Week 2: Meeting 2 with teacher A (session 2)

School: A **Attendance:** 6 **Duration:** 90 minutes
Session no.: 2 **Number of children with LD:** 4

The Session's Procedures
Warm up activities: '00:00 till 23:36'

X's game: Day of the week

After the game, the teacher and the children jumped together into the storyland. This time the teacher introduced the ground rules at a different time and in a different manner. Last time she did it before the jumping part, but today after it; what I really liked is how she recalled it. She did not tell the children the rules directly. She asked the children to provide her with the rules of storyland instead of just telling them the rules. Moreover, the way she handled was totally the opposite of what she had been afraid of in the last discussion, which is how she would keep up with the children's thoughts. For example, one of the children's answers was: 'we must try acting out and doing the shape or whatever we have been asked to do and we must not be shy'. This is not one of the rules but it could be and what the teacher did was acknowledge the child's input and repeat it to the rest of the group.

Zip Zap Zop!: Vowels sound
Teacher A started by explaining the game to the children and gave them enough time to try each sound and its mime. The group started passing the sound across the circle, following the same sequence. I had to ask whether I could play with them; then I asked them to do it in different ways as another level. I asked them to be faster, make eye contact with the person that they wanted to pass the sound to and then pass the sound. The teacher realized the difference and she mentioned it while we were exchanging our places for the following game. After a while, when everyone had had the chance to pass the sound, we started to kick out anyone who made a mistake; it was fun and they enjoyed it when they caught Teacher A mistaking the sound with the mime. (The one who caught her is Y). I kept leading the game because Teacher A was really tired. I levelled up the activity via using the long vowels (instead of two seconds, we used seven seconds length). During the introduction, I st

On the right side of the main window, there is a vertical bar with 'Coding Density' at the top and a legend below it showing 'Teacher A' (purple), 'Leader Role' (blue), and 'Challenge' (orange).

Appendix 10

Consent Form for Research Participants' Parents / Guardians (English version)



CONSENT FORM FOR RESEARCH PARTICIPANTS' PARENTS / GUARDIANS

The Role of Creative Drama in Enhancing and Stimulating Thinking Skills in Children with Learning Difficulties

Details of Project

*This project is about enhancing thinking skills for children with learning difficulties through the use of creative drama. I am a lecturer at [REDACTED] and a current PhD student at University of Exeter my research interest is teaching thinking skills for children with learning difficulties. Children naturally play, and pretend and what more is they learn through their playing. Here, in this project I will focus on teaching thinking skills through the process of creative drama as a form of play. The project will have introduced to the children as an extra activity which will be held during the school time, and the children will be part of a Creative Drama Club. **For more details about the project please see the information leaflet.***

What I will do with the data

- The information you provide will be used for research purposes and your child's personal data will be processed in accordance with current data protection legislation and the University's notification lodged at the Information Commissioner's Office.
- Your daughter's personal data will be treated in the strictest confidence and will not be disclosed to any unauthorised third parties. The results of the research will be published in anonymised form.
- All the recordings (video and audio) will be saved on my own computer which no one else has access to, moreover, the file will be protected by password.
- All the recordings (video and audio) will be destroyed after finishing the research project completely.

Contact Details

For further information about the research, please contact:

Arwa Mesfer Alharthi

University of Exeter, St Luke's Campus
Heavitree Road, Exeter, EX1 2LU,

Tel: + [REDACTED]

Email: [REDACTED]

Or contact my supervisor:

Professor Hazel Lawson

Director of Education
Special and Inclusive Education
University of Exeter, St. Luke's' Campus
Heavitree Road, Exeter EX1 2LU

Tel: [REDACTED]

Email: [REDACTED]



Consent

I have been fully informed about the aims and purposes of the project.

I understand that:

- There is no compulsion for my daughter to participate in this research project and, if she does choose to participate, she may at any stage withdraw her participation;
- I know that all the sessions will be recorded (video and audio) and my daughter will be in the video record even if she chooses not to participate in the research.
- I have the right to refuse permission for the publication of any information about my daughter;
- Any information which my daughter gives will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations;
- If there is a need to use any still pictures, I give permission for you to use my daughter’s picture in your report but her face will not be clear;
- If applicable, the information, which my daughter gives, may be shared between any of the other researcher(s) participating in this project in an anonymised form;
- All information my daughter gives will be treated as confidential;
- The researcher(s) will make every effort to preserve my daughter’s anonymity.

Note: * The creative drama club is an extracurricular activity during the school time and all the children can attend the club without being part of the research project.

.....
(Signature of parent / guardian)

.....
(Date)

.....
(Printed name of parent / guardian)

.....
(Printed name of participant)

.....
(Printed name of researcher)

.....
(Signature of researcher)

One copy of this form will be kept by the participant’s parent or guardian; a second copy will be kept by the researcher(s).

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University’s registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Consent Form for Research Participants' Parents / Guardians (Arabic version)



استمارة موافقة ولي الأمر

دور الدراما الإبداعية في تعزيز وتحفيز مهارات التفكير لدى الأطفال ذوي صعوبات التعلم

معلومات عن المشروع

يبحث المشروع عن إمكانية تعزيز مهارات التفكير لدى الأطفال ذوي صعوبات التعلم من خلال استخدام الدراما الإبداعية، مع العلم بأن الباحثة هي محاضرة بجامعة جدة وطالبة دكتوراه حاليًا في جامعة أكستر ببريطانيا. وينصب اهتمام هذا المشروع حول تعليم مهارات التفكير لدى الأطفال ذوي صعوبات التعلم من خلال استخدام استراتيجيات الدراما الإبداعية واللعب الجماعي ، حيث أن الأطفال بطبيعتهم يميلون إلى اللعب و تمثيل الأدوار إضافة لذلك فإن الأطفال يتعلمون و يكتسبون مهارات كثيرة من خلال اللعب. لذلك تركز هذه الدراسة على تدريس مهارات التفكير من خلال عملية الدراما الإبداعية كشكل من اشكال اللعب. سوف يُقدم المشروع كمشاط إضافي وسيُعد أثناء الدوام المدرسي، كما سيُشكل الأطفال جزء من نادي الدراما الإبداعية لمزيد من المعلومات الرجاء الاطلاع على نشرة المشروع.

ما الذي سوف يتم فعله بالبيانات

- المعلومات المقدمة سوف يتم استخدامها فقط لأغراض البحث العلمي، وفيما يتعلق بأمر المعلومات الشخصية الخاصة بطفلك سوف يتم معالجتها وفقا لقانون حماية البيانات حيث ان جامعة أكستر مسجلة لدى مكتب مفوض حماية البيانات.
- بيانات ابنتك الشخصية سوف يتم التعامل معها بسرية تامة ولن يتم الكشف عنها لأي طرف ثالث، والنتائج سوف تنشر بشكل مشفر أي بدون ذكر الاسم الحقيقي لطفلكم.
- كل التسجيلات الصوتية سوف يتم حفظها في الجهاز الخاص بي وسوف تكون محمية بكلمة مرور، وبالتالي لن يستطيع أي شخص الوصول إليها.
- كل التسجيلات الصوتية سوف يتم التعامل معها بسرية تامة و لن يتم مشاركتها لأي أحد نهائيا عدى مشرفة البحث في حال لزم ذلك.
- كل التسجيلات الصوتية سوف يتم التخلص منها بعد الانتهاء من المشروع فوريا.

لمزيد من المعلومات حول المشروع ، الرجاء التواصل :

أروى مسفر الحارثي

جامعة أكستر - St Luke's Campus

Heavitree Road, Exeter, EX1 2LU,

الجوال البريطاني:

الجوال السعودي:

البريد الإلكتروني:

أو للتواصل مع المشرفة الدراسية:

برفسور: Hazel Lawson

رئيس قسم التربية - جامعة أكستر

التربية الخاصة والشاملة

جامعة أكستر - St Luke's Campus

Heavitree Road, Exeter EX1 2LU

الهاتف الدولي:

البريد الإلكتروني:

لقد تم تزويدي بكافة المعلومات حول اهداف واغراض هذا المشروع، وقد فهمت التالي:

- أن ابنتي ليست مجبرة على المشاركة في هذا المشروع، وفي حال مشاركتها لديها كامل الحق في الانسحاب من المشروع في أي مرحلة.
- اعلم بأن كل الجلسات سوف يتم تسجيلها صوتيًا ، وانه سوف يتم تسجيل صوت ابنتي حتى لو لم ترغب بالمشاركة كجزء من المشروع البحثي.
- لدي كامل الحق في رفض نشر أي معلومات تتعلق بابنتي .
- أي معلومات معطاة من قبل ابنتي سوف يتم استخدامها فقط لأغراض البحث العلمي التي قد تشمل النشر العلمي أو المشاركة في مؤتمرات أو ندوات علمية.
- في حال الرغبة بتبادل ومشاركة المعلومات المعطاة من قبل ابنتي مع باحثين اخرين او مشاركين في هذا المشروع سيتم ذلك بسرية و بدون ذكر اسماء.
- سيتم التعامل مع المعلومات المُعطاه من قبل ابنتي بكل سرية تامة.
- الباحثة ستعمل جاهدة على الحفاظ على هوية ابنتي.

ملاحظة: نادي الدراما الإبداعي يعد نشاط دراسي إضافي خلال فترة الدوام الرسمي للمدارس وجميع الطالبات يستطيعون الانضمام إلى النادي بدون ان يكونوا جزء من مشروع البحث.

لا أوافق

أوافق

.....
(اسم ولي الامر)

.....
(التاريخ)

.....
(توقيع ولي الامر)

.....
(اسم الطفل)

.....
(توقيع الباحثة)

.....
(اسم الباحثة)

يحصل ولي الأمر على نسخة من هذه الاستمارة، والنسخة الثانية يتم الاحتفاظ بها من قبل الباحثة.

قانون حماية البيانات: تلتزم جامعة اكستر بحماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات 1998، كونها مسجلة لدى مكتب مفوض حماية البيانات. المعلومات المقدمة سوف تستخدم لأغراض البحث فقط وسوف يتم معالجتها وفقا لتسجيلات الجامعة وقانون حماية البيانات الحالي. نؤكد على سرية البيانات ولن يتم الكشف عنها لأي طرف ثالث ما لم يتم الاتفاق عليه من قبل. التقارير سوف تستند على بيانات مشفرة أي بدون ذكر الأسماء الحقيقية للمشاركين.

Appendix 11

Research Project Information Leaflet for Parents of Children With LD (English version)



RESEARCH PROJECT INFORMATION LEAFLET FOR PARENTS OF CHILDREN WITH LD

Creative Drama Club: Thinking Skills Program Enhancing thinking skills for children with learning difficulties

As a researcher with an interest in teaching thinking for children with learning difficulties, I would like to ask your child to take a part in a Creative Drama Club. The sessions will be led by the (*name of the teacher*) and me, Arwa Alharthi.

Who I am

I am a Thinking Skills lecturer at the [REDACTED] who sponsor me to do this research. Currently I am a PhD student at the University of Exeter.

The Creative Drama Club relates to my research project which focuses on teaching thinking skills and seeks to understand how the thinking skills of children with learning difficulties might be enhanced through the use of creative drama.

What your child participation will involve

The creative drama club involves two different main activities: first, a weekly creative drama session, which includes multiple forms of activities such as role-play, story narrating and improvisation. The session will be mainly focused on fostering thinking skills through creative drama activities. Second, as part of the session there will be an informal discussion around the session itself and the children's points of view about it.

I anticipate that each session of the creative drama club will take about 40-45 minutes and I would like to video record it so I have a record of the session. The video will be shared with my supervision team if needed and will only be used for the purposes of the research project only.

Additionally, all information will be collected for the purposes of the research project only. This may be in the form of ongoing reports for my supervisor, journal publication, conference participation and the final thesis. All schools and participants will be anonymised and all information will be confidential.

If you have any further questions, please do not hesitate to contact me or my supervisor

Arwa Mesfer Alharthi

PhD. Student
Graduate School of Education
University of Exeter
St Luke's campus
Heavitree Road, Exeter EX1 2LU

+ [REDACTED]
[REDACTED]

Professor Hazel Lawson

[REDACTED]
Special and Inclusive Education
St. Luke's Campus
University of Exeter

[REDACTED]

Research Project Information Leaflet for Parents of Children With LD (Arabic version)



نشرة توضيحية للأباء

نادي الدراما الإبداعية: برنامج مهارات التفكير لتعزيز مهارات التفكير عند أطفال صعوبات التعلم

كوني باحثة مهتمة في تطوير وتدريب مهارات التفكير للأطفال في المرحلة الابتدائية وخاصة الأطفال ذوي صعوبات التعلم، أرغب بدعوة ابنتكم لتشارك معنا في نادي الدراما الإبداعية. حيث أن النادي سيقام خلال اليوم الدراسي وستقاد ورش العمل والأنشطة بالتعاون بيني و (اسم المعلمة)

من أنا:

أروى مسفر الحارثي، محاضرة مهارات تفكير في [] حيث أنها الداعمة لي للقيام بهذا البحث، أما في الوقت الحالي فأنا طالبة دكتوراه مبتعثه إلى جامعة أكستر ببريطانيا. حيث أن هذا النادي له علاقة بموضوع بحثي والذي يتركز محوره حول إمكانية تعزيز مهارات التفكير لدى الأطفال ذوي صعوبات التعلم من خلال استخدام الدراما الإبداعية.

ما الأمور التي تنطوي عليها مشاركة ابنتكم:

نادي الدراما الإبداعية هو جزء من بحثي العلمي. يحتوي النادي على نشاطين رئيسيين:

النشاط الأول: ورشة العمل الاسبوعية والتي تتضمن أنشطة متعددة مثل: لعبة الأدوار، رواية القصة والارتجال. سوف تركز الورش بشكل رئيسي على تعزيز وتنمية مهارات التفكير لدى الأطفال ذوي صعوبات التعلم من خلال استخدام استراتيجيات وألعاب الدراما.

النشاط الثاني: هو الحوار والنقاش الجماعي لنقد المشاركة النادي. هذه النقاشات غير رسمية وسوف تكون غير مباشرة من خلال القيام بأعمال يدوية. من المتوقع أن يستغرق النقاش من 40-45 دقيقة، حيث أنه يتمحور حول تجربة الأطفال في نادي الدراما الإبداعية وذلك لمعرفة وجهة نظرهم حول ورش العمل وتجربتهم في العمل واللعب الجماعي.

جميع الأنشطة سوف يتم تسجيلها بالصوت والصورة (فيديو)، حيث أن هذه التسجيلات سوف يتم تداولها فقط مع فريق الاشراف الدراسي في حال الاحتياج، مع العلم بأن كل هذا من أجل أغراض البحث العلمي.

بالإضافة إلى ذلك، كل المعلومات التي سوف يتم جمعها سوف تستخدم فقط لأغراض البحث العلمي، والتي قد تشمل تقارير مقدمة للمشرقة الدراسية، أو النشر في المجلات العلمية، أو المشاركة في المؤتمرات العلمية وبحث الدكتوراه. مع العلم بأن جميع أسماء المدارس وأسماء المشاركات في البحث الحقيقية لن تدرج في البحث أو في أي من الأنشطة العلمية المذكورة سلفاً.

في حال وجود أي أسئلة الرجاء عدم التردد في التواصل معي شخصياً أو مع المشرقة على البحث.



أروى مسفر الحارثي

جامعة اكستر - *St Luke's Campus*

Heavitree Road, Exeter, EX1 2LU,

الجوال البريطاني: [REDACTED]

الجوال السعودي: [REDACTED]

البريد الإلكتروني: [REDACTED]

وللتواصل مع المشرف الدراسي:

برفسور: *Hazel Lawson*

رئيس قسم التربية - جامعة اكستر

التربية الخاصة والشاملة

جامعة اكستر - *St Luke's Campus*

Heavitree Road, Exeter EX1 2LU

الهاتف الدولي: [REDACTED]

البريد الإلكتروني: [REDACTED]

لقد تم تزويدي بكافة المعلومات حول اهداف واغراض هذا

المشروع، وقد فهمت التالي:

- أن ابنتي ليست مجبرة على المشاركة في هذا المشروع، وفي حال مشاركتها لديها كامل الحق في الانسحاب من المشروع في أي مرحلة.
- اعلم بأن كل الجلسات سوف يتم تسجيلها صوتيًا ، وانه سوف يتم تسجيل صوت ابنتي حتى لو لم ترغب بالمشاركة كجزء من المشروع البحثي.
- لدي كامل الحق في رفض نشر أي معلومات تتعلق بابنتي .
- أي معلومات معطاة من قبل ابنتي سوف يتم استخدامها فقط لأغراض البحث العلمي التي قد تشمل النشر العلمي أو المشاركة في مؤتمرات أو ندوات علمية.
- في حال الرغبة بتبادل ومشاركة المعلومات المعطاة من قبل ابنتي مع باحثين اخرين او مشاركين في هذا المشروع سيتم ذلك بسرية وبدون ذكر اسماء.
- سيتم التعامل مع المعلومات المعطاه من قبل ابنتي بكل سرية تامة.
- الباحثة ستعمل جاهدة على الحفاظ على هوية ابنتي.

ملاحظة: نادي الدراما الإبداعي يعد نشاط دراسي إضافي خلال فترة الدوام الرسمي

للمدارس وجميع الطالبات يستطيعون الانضمام إلى النادي بدون ان يكونوا جزء من مشروع البحث.

لا أوافق

أوافق

.....
(اسم ولي الامر)

.....
(التاريخ)

.....
(توقيع ولي الامر)

.....
(اسم الطفل)

.....
(توقيع الباحثة)

.....
(اسم الباحثة)

يحصل ولي الأمر على نسخة من هذه الاستمارة، والنسخة الثانية يتم الاحتفاظ بها من قبل الباحثة.

قانون حماية البيانات: تلتزم جامعة اكستر بحماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات 1998، كونها مسجلة لدى مكتب مفوض حماية البيانات. المعلومات المقدمة سوف تستخدم لأغراض البحث فقط وسوف يتم معالجتها وفقاً لتسجيلات الجامعة وقانون حماية البيانات الحالي. نؤكد على سرية البيانات ولن يتم الكشف عنها لأي طرف ثالث ما لم يتم الاتفاق عليه من قبل. التقارير سوف تستند على بيانات مشفرة أي بدون ذكر الأسماء الحقيقية للمشاركين.

Appendix 12

Consent Form for Creative Drama Club Members' Parents / Guardians (English version)



CONSENT FORM FOR CREATIVE DRAMA CLUB MEMBERS' PARENTS / GUARDIANS

Creative Drama Club: Thinking Skills Program

Aim: Enhancing thinking skills for children in primary school level at an inclusive school

Duration: 10 weeks, 1 session/week.

Day and time: , and from To

The Creative Drama Club leaders: (the name of the schoolteacher) and Arwa Alharthi

General information:

- This creative drama club focuses mainly on teaching thinking skills through the use of creative drama.
- The creative drama club is part of PhD research as explained by the school principal.
- It will take part as an extra curricula activity that will be held during the school time.
- All students are welcome to join the club even if they are not participants **BUT**;
- All the creative drama sessions will be **audio and video recorded** for the research purpose as explained by the principal.

If you have any further questions, please do not hesitate to contact me or the school principal

Arwa Mesfer Alharthi

PhD. Student
Graduate school of education
University of Exeter
St Luke's campus
Heavitree Road, Exeter EX1 2LU



(Name of the School and the contact information)

Consent Form for Creative Drama Club Members' Parents / Guardians
(Arabic version)



استمارة عضوية نادي الدراما الإبداعي

نادي الدراما الإبداعية: برنامج مهارات التفكير

الهدف.. تعزيز مهارات التفكير عند اطفال المرحلة الابتدائية بمدارس الدمج.
المدة.. أسابيع بمعدل ورشة عمل واحدة كل أسبوع
اليوم.. والوقت.. خلال حصص النشاط (من الأسبوع القادم)
قائدة نادي الدراما الإبداعية.. الـ

معلومات عامة

- هذا النادي يركز بشكل رئيسي على تعليم مهارات التفكير من خلال استخدام الدراما الإبداعية.
- نادي الدراما الإبداعية يُعد جزء من بحث دكتوراه ولمزيد من المعلومات يمكنكم التواصل مع إدارة المدرسة.
- نادي الدراما الإبداعية سوف يُقدم كتنشيط دراسي اضافي خلال فترة الدوام الرسمي للمدارس.
- جميع الطالبات مرحب بهن للانضمام إلى النادي حتى وإن لم يكونوا مشاركات في المشروع البحثي.
- جميع حصص نادي الدراما الإبداعية سيتم تسجيلها صوتيًا لأغراض البحث العلمي فقط.

في حال وجود أي أسئلة الرجاء عدم التردد في التواصل معي شخصيا أو مع قائدة المدرسة.

أروى مسفر الحارثي

جامعة اكستر - St Luke's Campus,
Heavitree Road, Exeter, EX1 2LU,

الجوال البريطاني:

الجوال السعودي:

البريد الإلكتروني:

ملاحظة.. نادي الدراما الإبداعية يعد نشاطا دراسي إضافي خلال فترة الدوام الرسمي للمدارس،
وجميع الطلاب يستطيعون الانضمام إلى النادي بدون ان يكونوا جزء من مشروع البحث.

لا أوافق

أوافق

.....
(اسم ولي الأمر)

.....
(التاريخ)

.....
(توقيع ولي الأمر)

.....
(اسم الطفل)

.....
(توقيع الباحثة)

.....
(اسم الباحثة)

يحصل ولي الأمر على نسخة من هذه الاستمارة، والنسخة الثانية يتم الاحتفاظ بها من قبل الباحثة.

قانون حماية البيانات: تلتزم جامعة اكستر بحماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات 1998، كونها مسجلة لدى مكتب مفوض حماية البيانات. المعلومات المقدمة سوف تستخدم لأغراض البحث فقط وسوف يتم معالجتها وفقا لتسجيلات الجامعة وقانون حماية البيانات الحالي. نؤكد على سرية البيانات ولن يتم الكشف عنها لأي طرف ثالث ما لم يتم الاتفاق عليه من قبل. التقارير سوف تستند على بيانات مشفرة أي بدون ذكر الأسماء الحقيقية للمشاركين.

Appendix 13

A Child Consent Form for Research (Year 2 & 3) (English version)


CHILD CONSENT FORM FOR RESEARCH

HELLO
My Name is _____


I'm at grade

Please, to join 'The Creative Drama Club' complete the map with your teacher:


Start



I know why I join the club




My teacher explained to me how all the information will be used




You can use my picture but my face will be blurred


End




I know that I can leave the club at any time



I know that attending the session is my choice



You can use my own words but without my name



I am happy that what I say is audio-record

(Printed name of child)

(Signature of child)

(Printed name of researcher)

(Signature of researcher)

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

A Child Consent Form for Research (Year 2 & 3) (Arabic version)

استمارة موافقة الطالبة

مرحباً ... أنا اسمي في الصف ومن من أجل المشاركة في نادي الدراما.. ستأتم الخريطة مع معلمتي:

Start

Information III

my info

Bye!

End

اسم الطالبة: التوقيع:

الباحثة : أروى الحارثي التوقيع:

قانون حماية البيانات: تتزم جامعة أكستر بحماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات 1998، كونها مسجلة لدى مكتب مفوض حماية البيانات. المعلومات المقدمة سوف تستخدم لأغراض البحث فقط وسوف يتم معالجتها وفقاً لتسجيلات الجامعة وقانون حماية البيانات الحالي. نؤكد على سرية البيانات ولن يتم الكشف عنها لأي طرف ثالث ما لم يتم الاتفاق عليه من قبل. التقارير سوف تستند على بيانات مشفرة أي بدون ذكر الأسماء الحقيقية للمشاركين.

Appendix 14

A Child Consent Form for Research (Year 4, 5, & 6) (English version)



CHILD CONSENT FORM FOR RESEARCH



I'm at **123** grade

Please, Colour the circle with green if you agree or with red if disagree:

- I have been given enough information about the project.
- It has been explained to me how the information I give will be used.
- It has explained to me that I can leave the project at any time.
- I understand that I don't have to attend all the sessions of the creative drama club if I don't want.
- I am happy for you to audio record what I say during the sessions.
- I am happy for you to video record what I do during the sessions.
- I give permission for you to use my words in your report but my name will not be mentioned.
- I give permission for you to use my picture in your report but my face will not be clear.



.....
(Printed name of child)

.....
(Signature of child)

.....
(Printed name of researcher)

.....
(Signature of researcher)

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

A Child Consent Form for Research (Year 4, 5, & 6) (Arabic version)



استمارة موافقة الطالبة

مرحباً ... أنا اسمي في الصف

يُرجى تظليل المربع بالأخضر في حال الموافقة وبالأحمر في حال الرفض:



تم إعطائي معلومات كافية عن المشروع
تم شرح وتوضيح كيفية استخدام المعلومات التي سوف أقدمها
تم توضيح إمكانية الخروج والانسحاب من المشروع في أي وقت اشاء
فهمت أنه لا يجب علي حضور كل حصص نادي الدراما الإبداعي إذ لم أرغب
أنا راضية عن استخدام التسجيل الصوتي لما أقوله أثناء حصص نادي الدراما الإبداعي
أسمح لك باستخدام كلماتي وعباراتي في التقرير ولكن بدون ذكر اسمي
أسمح لك باستخدام صوري في التقرير ولكن بدون ظهور ملامح وجهي بشكل واضح

التوقيع: الباحثة: أروى الحارثي.....
اسم الطالبة:

قانون حماية البيانات: تلتزم جامعة كستر بحماية البيانات كما هو مطلوب القيام به بموجب قانون حماية البيانات 1998، كونها مسجلة لدى مكتب مفوض حماية البيانات. المعلومات المقدمة سوف تستخدم لأغراض البحث فقط وسوف يتم معالجتها وفقاً لتسجيلات الجامعة وتكون حماية البيانات الحالي. نؤكد على سرية البيانات ولن يتم الكشف عنها لأي طرف ثالث ما لم يتم الاتفاق عليه من قبل. التقرير سوف تستند على بيانات مشفرة أي بدون ذكر الأسماء الحقيقية للمشاركين.

Appendix 15

Summary of The Interpretive Research Principles (Source, Klein and Myers, 1999, p.72)

Principle number 1	‘This principle suggests that all human understanding is achieved by iterating between considering the interdependent meaning of parts and the whole that they form. This principle of human understanding is fundamental to all the other principles.’
Principle number 2	‘Requires critical reflection of the social and historical background of the research setting, so that the intended audience can see how the current situation under investigation emerged.’
Principle number 3	‘Requires critical reflection on how the research materials (or "data") were socially constructed through the interaction between the researchers and participants.’
Principle number 4	‘Requires relating the idiographic details revealed by the data interpretation through the application of principles one and two to theoretical, general concepts that describe the nature of human understanding and social action.’
Principle number 5	‘Requires sensitivity to possible contradictions between the theoretical preconceptions guiding the research design and actual findings ("the story which the data tell") with subsequent cycles of revision.’
Principle number 6	‘Requires sensitivity to possible differences in interpretations among the participants as are typically expressed in multiple narratives or stories of the same sequence of events under study. Similar to multiple witness accounts even if all tell it as they saw it.’
Principle number 7	‘Requires sensitivity to possible "biases" and systematic "distortions" in the narratives collected from the participants.’

Klein, H., & Myers, M. (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly*, 23:1 67-94.