THE UNIVERSITY OF HULL

Preliminary Factors Necessary for Effective Implementation of Cooperative Learning, and their Prevalence in Cooperative Learning Practice in Saudi Arabia

being a Thesis submitted for the Degree of

DOCTOR OF PHILOSOPHY

in the University of Hull

by

SAEED SALEH A ALBUHAIRI

(BA, MA)

March 2015

Abstract

For a number of years, educationalists in Saudi Arabia have criticized the education system, blaming outdated teaching methods for unsatisfactory pupil outcomes. Government rhetoric on education reform advocates a move to new approaches, particularly cooperative learning (CL), yet implementation is reportedly still low. Previous research by the current author, and personal experience suggest that a potential reason for this lack of implementation is that students and teachers are not ready in a variety of ways to engage with cooperative learning. This study, therefore, explores the necessary preliminary factors for effective implementation of cooperative learning, their prevalence in Saudi Arabia, and the challenges and facilitating factors influencing their development.

A mixed method, two-phase research design was adopted. In Phase One (quantitative), all boys' primary school Arabic language teachers (n=79) in Alaurthiah Ashamaliah region were surveyed regarding their understanding and practice of CL. In Phase Two (qualitative), pre-lesson, post-lesson and general interviews were conducted with seven CL-implementing teachers, one lesson by each of the seven observed using an observation checklist, and a video-recording of each observed lesson discussed with the teacher concerned.

The findings revealed generally low understanding and prevalence of CL overall, and of the preliminary factors identified from CL literature (positive interdependence, individual and group accountability, promotive interaction, interpersonal and small group skills, and group processing). A complex interplay of macro- and micro-level factors were found to constrain CL, including the centralized, hierarchical education system, an overloaded curriculum, limited regional infrastructure, lack of resources and educational aids and, above all, insufficient quantity and inadequate quality of teacher training for CL. Nevertheless, the cooperative values of Islam, collectivist social traditions and government interest in education reform are potentially facilitative. Recommendations are offered for the Ministry of Education, training providers and teachers, for ways to promote, develop and enhance CL practice in Saudi schools.

Acknowledgments

I owe appreciation, gratitude and sincere thanks to my experienced supervisory team, Professor Mike Bottery, Dr. Wendy Jolliffe, and Mr. Nigel Wright, for their consistent support, guidance and invaluable advice and recommendations. With their help, I have become a better researcher, scholar and person.

Many great people in my life also deserve to be named and thanked individually, My wife Saliha Albuhairi. I am profoundly grateful to my family (my father and mother, sisters and brothers), my friends, and my colleagues. Without their support, love and encouragement, this thesis would not have been completed. Also, my gratitude to Mrs. Kathryn Spry, the proof reader for my thesis, for her professional work.

I would like also to thank my fellow researchers at the graduate school, with whom I spent fantastic years for their support and encouragement.

Last but not least, I thank the participants for giving up their time and for their willingness to share their experiences with me.

Dedication

I would like to dedicate this work to four people.

My mother, Alwah Mohammad AlQarni. She has always been there for me since I was a child. She has always stood beside me and I am inspired by the trust she has shown in me.

My father, Saleh Ahmad Albuhairi. He has done everything he could to enable me to continue further and to go as far as I can. In short, he loves education for his family and my study has been a priority for him.

My friend, Mohammad Abdullah (Abu Eyad), who was tragically killed in a car accident while I was in the UK. I know what this moment would have meant to him. His death wounded me and it will always feel as if a part of me is missing. I will never forget his consistent support and encouragement and, above all, his true friendship.

My older brother, Sarhan. He helps me with the duties of social commitments and life. He has successfully managed my life beyond its academic duties to create the best possible environment for my studies.

List of Tables

List of Figures

TABLE OF CONTENTS

Chapter One

Introduction

Background to the Study

A challenge of ongoing interest to educators is how to motivate and engage learners and to achieve desired academic outcomes along with desirable personal and social development. One answer to this dilemma proposed by certain educationalists over the past fifty years has been cooperative learning (CL), in which pupils are organised into small groups to work on a shared task, toward the achievement of a common goal, each contributing their own efforts, information and ideas (Johnson and Johnson, 1994, 1999; Brody and Davidson, 1998; Klingner et al., 1998). The growing interest in CL can be attributed to the wide-ranging cognitive, social and personal benefits reported by implementers to accrue from this approach to teaching and learning. Slavin (1995) noted benefits that drive educators to support cooperative learning, including increased self-esteem, thinking skills, problem solving, assimilation of knowledge with everyday life in the learning process, increased achievement, respect for academically disadvantaged pupils, discussion with other pupils that provides broader knowledge of study topics from different perspectives and, last but not least, promotion of positive relationships and social skills among pupils from different ethnic backgrounds.

These early results have been confirmed by more recent studies, across all education stages and a variety of academic subjects (Gillies, 2007; Johnson and Johnson, 2008; Hsiung, 2012; Beck and Chizhik, 2013; Kyndt et al., 2013; Blatchford and Baines, 2015). Such evidence has recently aroused the interest of some Saudi Arabian educators, and indeed of the Saudi government, under the umbrella of an ongoing education reform programme. Hence, as a

former teacher and current teacher educator, I was motivated to investigate whether and how CL, a pedagogy which has predominantly been developed in contexts very different from Saudi Arabia, notably the USA, might be conceptualized and implemented by Saudi teachers.

Identification of the Research Problem

The educational environment in Saudi Arabia has attracted widespread criticism for relying on teacher-centred methods which, it is claimed, do not meet the needs of the modern era (Wiseman and Alaoui, 2003). Saudi researchers such as Al-Sadan (2000) and Shoaib (2004) have reported heavy reliance on rote learning and memorization, and a lack of attention to higher-order thinking skills, such as problem-solving, synthesis and critical thinking.

Another major concern for education researchers is related to the common belief in Saudi society in the importance of human relationships (Al-Gathami, 2009). Culturally, traditionally and religiously, strong relationships among families, friends, tribes, neighbours and others are a significant part of Saudi life. It is ironic, then, that Saudi education appears to adhere to a model that does not promote, and may even inhibit, such relations. It is necessary to develop social skills to produce successful members of society, and this raises the question of what kinds of learning should be developed and supported in terms of interpersonal relationships, psychological health and achievement.

In such a context, and particularly in the light of the government interest in improving education by developing teachers' knowledge and skills- not to mention a declared interest in CL expressed in recent policy (Alsabti, 2012), a keenly debated topic among Saudi educationalists is, why do Saudi teachers not make more use of modern pedagogies, such as cooperative learning?

Albuhairi (2009), Algarfi (2005, 2010) Alrasheed et al. (2003) and Alhodithy (2009) have all asserted the low level of implementation of cooperative learning in Saudi schools. Algarfi (2005) found that 60% of teachers in his sample (N=35) were using lecture, debate or dialogue teaching methods. However, more than 94% believed in the benefits of cooperative learning. This raises the question why its implementation is so low, while the belief in its usefulness is very high. Albuhairi (2009) discovered that only 6 of 47 teachers surveyed were able to provide an adequate definition of cooperative learning. Alhodithy (2009), too, found the concept poorly understood. Therefore, teachers' understanding of cooperative learning is worthy of research, as well as other factors that may inhibit the practice of cooperative learning.

Thus far, however, there has been a dearth of research on CL in the Saudi context. Moreover, in general, the few extant studies on cooperative learning in Saudi Arabia have focused on cooperative learning's effectiveness in different subjects and its impact on students' achievement and attitudes, so as to persuade teachers to practise it regularly. Most of these studies have provided conclusions and recommendations on how to solve the deficiency in implementation and use of cooperative learning, but they have not looked at the basic factors of teachers' understanding, the prerequisites for cooperative learning, and the contextual factors that influence them.

My strategy in this research, therefore, rather than to start where other left off, has been to focus on the area where I believe others should have started. As a benchmark for such an investigation international theory and research on the preliminary factors necessary for effective implementation of cooperative learning, especially in countries where cooperative learning has been successfully implemented, and by pioneers in the field, offers a useful starting point. Examining teachers' knowledge of these preliminary factors and their

prevalence of use in the Saudi context will not only illustrate the level of teachers' experience but also shed light on the key elements that affect their use of cooperative learning.

My Background and Positionality in Relation to the Research

Throughout my experience as a pupil in all general education (primary, intermediate and secondary) stages in Saudi Arabia, I found that pupils were passive, simply receiving information and writing notes to be memorized for future examinations with little engagement in lessons. Later, as an Arabic language student in a teachers' college, I found that most lecturers appeared to be unaware of the potential usefulness of different teaching methods. Only two units directly focused on pedagogy in teacher preparation. One was on general teaching methods and the other was specifically about methods of teaching the Arabic language. Each accounted for only 2 hours, out of a total of 141 hours teaching over four years. Moreover, even though a range of teaching styles were discussed, the units were delivered in the traditional teacher-centred way. Most students seemed happy with that as well. However, as a student teacher on school placement in my last term, I felt the lack of practical experience and the need for sufficient training. Later, as a primary school Arabic language teacher, I found little incentive or support for change. Educational supervisors conducted observations, expressed concern about paperwork and demanded that teachers apply new methods (mandated by the Ministry of Education), but gave no practical guidance or encouragement. Working as a specialist lecturer in teaching methodologies since 2005, in the Education Department at Umm Al-Qura University has familiarised me with most of the roles and positions currently held within the Saudi education system. People working in all these positions give a variety of reasons for not implementing new teaching methods: lack of

time, lack of knowledge, worries about the impact on pupil behaviour, fears that they do not have the authority to introduce innovation, and so on.

The tensions between the stagnation I observed in the Saudi education system, on the one hand, and government calls for reform on the other, prompted my interest in investigating what preliminary factors might be necessary for the effective implementation of cooperative learning, teachers' understanding of these factors, the extent to which teachers in Saudi Arabia apply them, and the factors that may constrain or facilitate the development of these factors in the Saudi context.

Research Questions

In the light of foregoing discussion, the main research question has been formulated as:

What are the necessary preliminary factors in the development of cooperative learning, and what is their prevalence in Saudi Arabia? This was addressed via six sub-questions, as follows:

- What is cooperative learning?

- What does international research say about the preliminary factors necessary in the development of cooperative learning?

- How does the Saudi context affect the development of cooperative learning?

- What is the prevalence of the necessary preliminary factors in the Saudi context?

- What are the challenges to the development of these factors?

- What facilitatory factors exist to aid their development?

The research questions were addressed by means of a two-phase, mixed methods study in one selected region of Saudi Arabia, involving boys' primary school teachers (it should be noted that education in Saudi Arabia is gender segregated), in my own curriculum area, Arabic language. Information was also obtained from Educational Supervisors who have inspectoral, advisory and in-service training roles in relation to teachers in a given subject specialism. Further details of the research design, methods and participants can be found in chapters six and seven.

Significance of the Research

As noted above, although educationists have been researching and discussing CL for several decades, such attention has been predominantly in Western contexts such as the USA, and there has been a relative dearth of research interest in CL in the Saudi context. Only recently have a few researchers in the Kingdom begun to address cooperative learning as a dimension of wider education reform initiatives within the Kingdom, and a number of research gaps have been identified, notably with regard to teachers' understandings of CL and the prerequisite factors for its implementation. The present research is a contribution towards addressing these shortcomings.

Discovering Saudi teachers' and teacher educators' understanding of these factors and how they are used in their practice will help determine the feasibility of systematic implementation of cooperative learning in Saudi classes, and what support may be needed to enable more widespread and effective implementation. The findings regarding Saudi teachers' understanding of and the extent to which they use the preliminary factors of effective cooperative learning practice in their experience of cooperative learning will illustrate to what extent they have been able to use cooperative learning effectively, which in turn will

shed light on the quality of their preparation for the teaching profession and continuing professional development, specifically for applying new pedagogical approaches such as cooperative learning.

The findings from this study will provide a guide for Saudi teachers in modifying classroom practices in such a way as to reconcile new pedagogical thinking with the Saudi culture and situational factors. At the same time, this study will help education policy makers to plan and develop relevant programmes based on these results and recommendations.

In this way, the research contributes to the current drive for reform in the Saudi education system, including reform in teacher training, teaching methods, teaching instruments, the curriculum, school management and availability of facilities in school buildings (Alkanem *et al.*, 2005). It highlights the importance of support for the implementation of cooperative learning in everyday practice as a useful teaching method.

Looking beyond Saudi Arabia, the research contributes to the broader areas of cooperative learning theory and comparative education by providing insights from an under-researched area, where culture and other conditions differ from those prevailing in areas where CL began and is more securely established. In so doing, it shows how a range of micro and macro level cultural, social and educational influences shape the availability of the preliminary factors of CL identified in previous literature. Such insights may inform future debate and research with regard to how universal or transferable these factors may be, and how CL may be interpreted for different cultural contexts.

Structure of the Research

The thesis consists of twelve chapters. Chapter one has explained the motivation for the research and identified the research problem as well as the research questions and objectives.

7

It has illustrated the significance of the study, both for practice within Saudi Arabian education and for broader understanding of cooperative learning, especially in a cross-cultural context.

Chapter two contains a review of the relevant literature on cooperative learning and its definitions. It investigates the preliminary factors necessary for effective implementation of cooperative learning. This is done in two ways: identification of necessary preliminary factors specified by pioneers in the cooperative learning field, and inference from specific cooperative learning models.

Chapter three discusses issues in the implementation of cooperative learning, with an emphasis on teachers' and pupils' roles in effective implementation. Moreover, it highlights the need for training of both teachers and pupils in the specific skills required for effective interaction and learning in a cooperative approach.

Chapter four provides background regarding the historical cultural and educational factors that may influence the implementation of cooperative learning in Saudi Arabia, with particular reference to the role of tribalism and Islam in Saudi life, collectivism and power distance and the implications for cooperative learning. It concludes with a discussion of contemporary education reforms and issues in Saudi Arabia.

Chapters five, six and seven outline the research methodology employed. Chapter five addresses philosophical issues and their impact on choices of approaches and methods. Chapter six introduces a two-phase, mixed-methods design, with a quantitative, survey-based preliminary phase followed by a qualitative investigation using interviews and observations, and provides a justification of the strategies and methods chosen. The implementation of the research is reported in chapter seven.

The findings from the analysis of the quantitative (survey) data are presented in chapter eight, while chapters nine and ten report the interviews and observations respectively. These findings are discussed in relation to the literature in chapter eleven, in which the six research sub-questions posed in this chapter are answered in turn. Finally, chapter twelve presents the major conclusions, limitations, contributions of the study and recommendations regarding cooperative learning in Saudi Arabia.

Chapter 2

Identification of the Preliminary Factors in Successful Cooperative Teaching and Learning

Introduction

This research concerns identification of the preliminary factors necessary for the development and implementation of cooperative learning and prevalence of these factors in Saudi Arabia. This chapter provides the theoretical foundation for the investigation. The chapter begins by identifying the key theoretical streams on which cooperative learning is based. Then, varying definitions of cooperative learning are discussed from the different perspectives of the most influential researchers in the field, including Slavin (1978, 1987,1996), Johnson and Johnson (1990,2000,2008) and Kagan (1985,1994). These definitions provide the reader with an understanding that reflects the work of leading scholars in the field. In this way, the literature review focuses on producing a critical review of the research into cooperative learning, with the aim of answering the first sub-question, 'What is cooperative learning?' The benefits of cooperative learning are then outlined, to distinguish the rationale for applying cooperative learning over other methods. The advantages of cooperative learning are discussed in relation to the reported improved academic achievement of pupils and the interpersonal and social skills that cooperative learning is said to promote. Attention then turns to the preliminary factors suggested to be necessary for effective implementation of cooperative learning. This is addressed in two ways: first, by a review of the ideas of pioneering researchers in this matter, and second by analysis of a variety of practical models of cooperative learning, in order to determine which of the preliminary factors the approaches contain. Based on these theories and approaches, a set of

necessary preliminary factors will be derived, which will provide a firm basis from which to consider whether cooperative learning and its preliminary factors are being applied in education in Saudi Arabia.

Theoretical Basis of Cooperative Learning

Cooperative learning has its theoretical roots in social science, education and learning theories. Those theoretical roots have been well addressed by pioneers and researchers of cooperative learning (Johnson & Johnson, 2000; Slavin, 1995; Morgan, 2003; Jolliffe, 2010; Nuntrakune, 2008). Generally Cooperative Learning is theoretically based on the following key origins: Social Interdependence Theory (Lewin, 1935, 1948; Deutsch, 1949a, 1962); Socio-cognitive Development Theory (Piaget, 1932; Vygotsky, 1978); and Behaviourist Learning Theory (Bandura, 1977; Skinner, 1974).

The Social Interdependence Theory

Social interdependence theories are concerned with how individuals interact with each other. Group work is at the core of the theory; Kurt Lewin (1935) pointed out that the core of group work is a common goal which creates interdependence among the group members. Lewin's theory was further developed by Morton Deutsch (1949a) who advanced the theory of cooperation and competition. Deutsch's theory highlighted that social interdependence is created when individuals share common goals so that the actions of the others affect each person's individual outcomes. This is distinguished from social dependence, which refers to the impact of one person's actions on another. There are three kinds of interdependence within groups: positive, negative and no interdependence.

11

Positive interdependence, which is also known as cooperation, happens when individuals are aware of the fact that their own goals can only be achieved if other group members achieve their goals too (Johnson & Johnson, 2000). As such, students cooperate with each other to achieve common goals. In this sense, positive interdependence encourages interaction where individuals facilitate and encourage each other's learning endeavours. It is associated with three specific psychological processes: substitutability (where the actions of one person can substitute for those of another), inducibility (openness to being influenced by others), and positive catharsis (investment of psychological energy in objects outside oneself, such as family and friends) (Tran, 2013).

Negative interdependence, also known as competition, occurs when students do not work cooperatively together to achieve shared learning goals. Contrary to positive interdependence, negative interdependence causes 'oppositional interaction' where individuals hinder and discourage each other's endeavours to learn and accomplish (Johnson & Johnson, 2000).

No interdependence, also known as 'no interaction', happens when each student in a given group works independently on their own to achieve goals without communicating or working with others in those groups. As such, individuals will look for personally beneficial results without caring about the outcomes of others (Johnson & Johnson, 2000).

The second theory that underpins cooperative learning is the Socio-cognitive Development Theory.

Socio-Cognitive Development Theory

Morgan (2003) states that the majority of development theories regard cooperation as being essential for cognitive growth. The socio-cognitive development theories have their roots mainly in the personal and social constructivist theories of Piaget and Vygotsky respectively.

These theories assume that learners construct knowledge, individually and socially (Queen, 2009).

Piaget as a personal constructivist regarded interaction as engendering 'cognitive conflict'. In Piaget's view, the cognitive development of the individual is speeded up by interaction, which challenges students' existing understandings. Through cooperation with others, students construct and reach consensus on new understandings by means of reaching an agreement with other students. Knowledge, values, regulations, morals, and systems of symbols are, according to Piaget, only learned effectively through interaction (Tran, 2013).

As a social constructivist, Vygotsky believed that knowledge is socially constructed, and development takes place in settings where individuals interact socially. As such, Vygotsky pointed out that there are two levels of learning: firstly, by interacting with others and secondly by integrating that learning into the individual's mind. He argued that:

> *Any function in the child's cultural development appears twice, or on two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an interpsychological category. This is equally true with regard to voluntary attention, logical memory, and formation of concepts and the development of volition. We may consider this position as a law in the full sense of the word, but it goes without saying that internalization transforms the process itself and changes its structure and functions. Social relations or relations among people genetically underlie all higher functions and their relationships. (1978, p.163)*

Thus, the majority of socio-cognitive development theorists consider that language and social interaction have a direct bearing on human learning and development. Hence, it is as Palincsar (1998) stated, 'Social constructivist perspectives focus on the interdependence of social and individual processes in the co-construction of knowledge' (p. 345). Therefore, knowledge is seen as not what an individual possesses; rather what is shared among

community members while taking into consideration historical and cultural issues. In fact that is why a number of socio-cognitive development theories view education as a cognitive and cultural developmental process. They posit that learning occurs within interactions between students and teachers, students and their peers and the sets of social practices and cultural values of the communities in institutions (Rojas-Drmmond & Mercer, 2003).

From the socio-cognitive, or constructivist perspective, such interaction makes for more effective learning than the "traditional" teacher-centred model. Von Glasersfeld (1995) believed that traditional methods of instruction are not effective, because of their individualist character; for optimum mental functioning and learning, students must interact socially. Through verbal interaction, students are able to use others' comments and explanations to mediate their own cognition, resulting in a construction of ideas that may not have been attainable without such interactions (Beck and Chizhik, 2013). It has also been suggested that interaction, such as occurs in cooperative learning, boosts learning because it meets students' psychological and emotional needs. For example, Queen (2009) citing the work of authors such as Dewey (1897) and Slavin (1996) suggests that adolescents, in particular, crave responsibility and dislike being forced into a passive role, so their learning is enhanced when all participate together.

The Behaviourist Perspective

The behavioural perspective, drawing on the work of scientists such as Skinner (1974) focuses on the motivational force of reward. In classical behaviourism (Thorndike, 1913) learning was viewed in terms of stimulus and response, reinforced externally through rewards and punishments. In the behavioural-social perspective (Bandura, 1977) in contrast, the reward for success is applied to group level, rather than individual level. As applied to

cooperative learning, the individual contributes to the group's achievement of its task, and gains a sense of reward from their contribution, and from the appreciation of their colleagues (Jolliffe, 2010).

Slavin (1987) identified three types of reward structures: individual rewards for individual achievement; group rewards for group achievement, and group rewards for individual achievement. The latter type, termed an interdependent reward structure, has been found to be the most effective, according to Nuntrakune (2008). The use of rewards in cooperative learning is, however, highly contentious. Kyndt et al. (2013) in a meta-analysis of 68 experimental studies from 1995 onward, found no evidence in favour of group reward. Moreover, as will be discussed further in Chapter Three, some educationalists argue that reward is unnecessary in cooperative learning and may create undesirable competition (Slavin, 1980; Ryan et al., 1985).

Definitions of Cooperative Learning

The concept of working together is not new. In the past, people had to form groups to survive. People, indeed, had to cooperate in all aspects of life, including building houses, hunting or farming to eat and defending life, as they could not rely on the machines of today, which can reduce one's need for others. Brody and Davidson (1998, p. 6) asserted that: *'[c]ooperation is one of the oldest concepts we associate with human and systemic survival … cooperation can be viewed as a deeply rooted set of values and principles that align overt practices with more covert attitudes and beliefs'*. Therefore, cooperative societies are keen to work for the mutual benefit of each member, e.g. through education, to enable everyone to achieve social mobility regardless of inherited wealth. The need to communicate and work with others has

steadily grown. People must learn to deal effectively with each other in schools, universities, shops, and other areas of daily life.

Cooperation is about working together for common goals. Argyle (1991,p. 15) defined cooperation as *'[a]cting together, in a coordinated way at work, or in social relationships, in the pursuit of shared goals, the enjoyment of the joint activity, or simply furthering the relationship'.* In the last thirty years, the idea of cooperation has come to be applied in the field of education. Pupils enjoy working together and helping each other with their homework, in the laboratory and with group projects. However, teachers might not favour some aspects of working together, such as completing homework. Moreover, working with peers or in groups does not always result in cooperative learning. Jolliffe (2010), Baines et al. (2003a) and Blatchford et al. (2007) reported that dividing pupils into small groups by seating them together and telling them to work on a task is a popular practice in the UK, but this does not necessarily mean that cooperative learning is taking place, because the pupils may not be learning and working together. Cooperative learning must be well structured and associated with certain preliminary factors to reap all the benefits of its implementation.

Siegel (2005) described cooperative learning, simply, as a learning method where small groups of pupils cooperatively share a task. However, Siegel's definition focused only on the task being shared, whereas the term cooperative learning often incorporates social, group and task structure as well as behaviour. From this perspective, cooperative learning is not only working together on a shared task, but following a systematic structure of prepared rules and outcomes to achieve collective rewards. As Slavin (1995, p. 6) said, cooperative learning is *'a structured, systematic instructional strategy'.* Slavin explained that cooperative learning requires preparation to structure the lessons systematically.

Not only does cooperative learning imply shared goals and a carefully designed structure, but it also requires a pooling of efforts, skills and knowledge. This is captured in the following definition of cooperative learning:

"Working together in small groups on a clearly defined task that requires the participation of everyone in the group" (Klingner et al., 1998)

Similarly, Johnson and Johnson (1994; 1999) noted that cooperative learning involves small groups maximising their understanding of the topic. This is achieved by each student sharing and pooling his or her knowledge. Cowie and Rudduck (1988) described it as a chance to gather and exchange opinions about the task from different points of view and argued that cooperation brings better results than competition. This is because the availability of diverse resources in groups can enhance the learning process by encouraging deep understanding, sharp judgment and extended knowledge, which might not occur in other types of learning environments, such as competitive or individualistic learning environments.

Brody and Davidson defined cooperative learning as:

> *a method of instruction that organises students to work in groups towards common goals or outcomes, or share a common problem or task in such a way that they can only succeed in completing the work through behaviour that demonstrates interdependence while holding individual contributions and efforts accountable (1998, p.8).*

This definition inspired this research, and it is used and developed to produce an original comprehensive definition of cooperative learning. This definition contains four elements crucial for successful cooperative learning:

1. Organising students, which emphasises the importance of preparing the class before the start through developing the skills required for learning in small groups.

2. Sharing common tasks to achieve shared results so that pupils know they must work together to succeed.

3. Communication and good social behaviour skills that encourage pupils to work together.

4. Interdependence and individual accountability among group members so that pupils must participate as much as they can, demonstrating fulfilment of their own personal duties and also recognising the necessity of unity within the group.

Brody and Davidson's definition included four conditions that combine to construct cooperative learning. Therefore, the comprehensive definition of cooperative learning used in this research is that cooperative learning is a method that is implemented through various models that share the idea of dividing pupils into heterogeneous groups in which their role in learning process becomes more active, whilst teachers act as supervisors, facilitators and organisers. Pupils learn by developing certain skills and behaviours, such as promotive interaction, positive interdependence and group competence.

Benefits of Cooperative Learning

A large body of research has proven the benefits of implementing cooperative learning in pupils' academic achievement, social interpersonal behaviour and other areas (Slavin, 1996; Slavin and Cooper, 1999; Putnam, 1998; Niemi, 2009; Johnson and Johnson, 1990; Kyndt et al. 2013; Blatchford et al. 2007). This evidence demonstrates the advantages of cooperative learning methods compared to competitive and individual learning methods. Such benefits can be divided into two main categories: impacts on pupils' academic achievement, and impacts on social and interpersonal behaviour, which will be discussed in turn.

Pupils' academic achievement

The increase or decrease in pupils' results indicating their academic achievement, is a cardinal issue in the decision of teachers to apply a particular method. For example, educators might support cooperative learning as a method if pupils achieve increasingly better grades, which are often used to measure academic achievement. To convince teachers to implement cooperative learning, evidence of its positive effect on pupils' achievements must be provided. Niemi (2009) asserted that the impact of cooperative learning on achievement is one of the most motivating factors for its application. Johnson and Johnson (1990) examined 323 studies comparing the effectiveness of cooperative learning against competitive and individualistic learning using four indices of achievement. The findings demonstrated that pupils in cooperative learning settings achieved higher results than those taught by a mixture of cooperative, competitive and individualistic pedagogical styles. Specifically, the researchers found that the quality of reasoning strategies in individuals working in cooperative settings and using focusing strategies was superior to that of pupils in other teaching environments. There was also evidence of a process gain, whereby pupils working together may create new ideas and solutions that may not have occurred in individual work. Finally, there is transference of learning (Johnson and Johnson, 1990), in which pupils who have worked in groups develop the ability to transfer their learning to situations in which they must work on their own.

Other comparative studies of the effectiveness of cooperative learning versus other teaching strategies demonstrate the advantages of cooperative learning. For example, Sharan and Sharan (1992) favoured cooperative learning over competitive and individualistic teaching methodologies in terms of gaining higher results. Moreover, the benefits of cooperative learning have been proven at all school stages and in various subjects. Gillies claimed that

'cooperative learning has been used successfully to promote learning achievements across diverse curriculum areas from kindergarten to college' (2007, p. 48). The primary aspects of this teaching strategy differentiate cooperation from individualistic and competitive learning, and have a positive effect on learning processes, which in turn leads to better, more comprehensive and more enduring understanding of materials.

Slavin (1996) examined 22 studies in which cooperative learning methods were used and found that pupils who participated in group work had high increases in their achievement compared to pupils who had been taught within the whole class. Moreover, many researchers, such as Slavin (1996), Slavin and Cooper (1999), Putnam (1998) and Johnson and Johnson (2008), have emphasised the effectiveness of implementing cooperative learning and its positive impact on achievement compared to other methods. Their work has shown that cooperative learning methods are central to greater success and they advocate accordingly that the practice of this method should be widely encouraged, supported and maintained. As Johnson and Johnson claimed, *'[t]he impact of cooperative learning on achievement means that if schools wish to prepare pupils to take proficiency tests to meet local and state standards, the use of cooperative learning should dominate instructional practice' (2008, p.16).* They argue that since cooperative learning enhances pupils' individual ability to increase their personal test scores, they should become central in educational practices.

Indeed, the academic benefits of cooperative learning have been asserted in a variety of educational stages and subject areas. For example Beck and Chizhik (2013) in a comparison of students taught by traditional and cooperative learning strategies on a computer course found that the cooperative learning group did significantly better in the final exam, and especially on a segment testing higher-level cognitive skills in program design and synthesis. The meta-analysis by Kyndt et al. (2013) confirmed significant positive effects for

achievement across all education stages. In the UK SPRinG project (Blatchford et al., 2007), pupils working in cooperative learning groups made greater gains than comparison, non-CL classes, in reading/ literacy, mathematics and science.

Some researchers, in addition to noting the academic gains attributable to cooperative learning, attempted to provide explanations for the improvements observed, related to student engagement and motivation. Queen (2009) citing Brown (2002) attributes gains in academic achievements with cooperative learning to students' greater motivation and engagement resulting from their greater ownership of learning. Similar motivational impact of shifting responsibility for learning onto students themselves has been reported by Gillies and Ashman (2003) and Angell (2014). In a study of the use of cooperative learning methods in teaching reading comprehension to intermediate- level English as a Foreign Language learners in Iran, Farzaneh and Nejadansari (2014) found a positive effect on motivation. However, their explanation differed from that of individual responsibility proposed by the above-mentioned authors. Rather, they attributed it to the confidence and enjoyment gained from the feeling of being able to rely on colleagues for help. Blatchford and Baines (2015) commented that in the Social Pedagogic Research into Group-work (SPRinG) project, cooperative group work doubled levels of sustained, active engagement, and more than doubled the amount of high-level, thoughtful discussion among pupils.

Academic gains from cooperative learning, however, are not automatic or immediate; Hsiung (2012) offers certain caveats in this respect. Hsiung (2012) found that, in a university Engineering course, students in a cooperative learning group performed substantially better in homework and unit tests than students working in individualistic learning conditions. However, he noted that a cooperative learning team needs time to mature and patience is needed, as improvement is not manifested immediately. Moreover, performance may be

slowed by attention conflict between task and teamwork concerns, in immature groups, or groups where some members are more skilled than others. A role of teachers is to monitor signs of such conflict and intervene if necessary to alleviate it.

The positive effects of cooperative learning on pupils' academic achievements illustrated in various research studies (Slavin, 1996; Slavin and Cooper, 1999; Putnam, 1998; Johnson and Johnson, 2008), support the value of implementing such a strategy throughout educational systems. However, the ways in which it should be implemented remain under investigation and this study aims to discover which features make its implementation the most effective. This will be achieved by researching international studies to decipher which preliminary factors necessary for implementation are the most important for success and then to investigate the prevalence of such practices in Saudi Arabia. First, however, it is necessary to consider the second category of benefits claimed for cooperative learning: the impact on social and interpersonal behaviour.

Social and interpersonal behaviour

In addition to benefiting pupils' academic achievement, cooperative learning is also claimed to encourage positive communal behaviour and social interaction, because it supports and builds relationships between pupils. Slavin (1990) noted that cooperative learning affects pupils' attitudes, social skills and motivation, promotes intergroup relations and increases confidence. Deutsch (1949b) conducted laboratory experiments which demonstrated that pupils who discuss their relationship issues under cooperative conditions experience greater accountability, more engagement, more pressure from their teammates to achieve higher results and a greater intention to win their teammates' respect. Therefore, low-level achievers will increase their efforts so as to satisfy their teammates by obtaining higher marks.

Cooperation creates positive feelings as well as a range of emotions, from sadness to happiness and excitement attributable to the class engagement with others and the psychological effects (such as catharsis) of positive interdependence, noted in the section on the theories underpinning cooperative learning. Working together creates a will to gain acceptance from others (Johnson & Johnson, 2008). Pupils take responsibility for their part in the task and are encouraged to achieve merit for the group, which creates stronger working relationships. Johnson and Johnson claimed that emotional bonding has a strong effect on behaviour, lowering absenteeism and dropout rates and raising 'commitment to group goals' (2008, p. 16). Johnson (2003) and Johnson and Johnson (2008) analysing more than 175 studies comparing the quality of relationships in cooperative, competitive and individualistic learning, found evidence that cooperative learning promotes interpersonal relationships among pupils. Social support among pupils was also evident, leading to friendships, community spirit and psychological health. Ashley-Montagu (1966) and Horney (1937, cited in Johnson and Johnson, 2008) pointed out that psychological health means being able to develop and maintain cooperative relationships. Therefore, as a learning strategy, cooperative learning also improves pupils' general social skills outside the context of academic learning because they are encouraged to interact with each other.

Consequently, improved psychological health is a further advantage of cooperative learning. Evidence for this can be found in Johnson and Johnson's (2008) research in China about cooperative, competitive and individualistic learning styles and the impact of each on psychological health at different levels and ages. The study included not only pupils, but also Olympic ice hockey players, adult couples and business executives. The results showed strong evidence that cooperation positively affects psychological health and related factors, while a mix of competitive and individualistic behaviour can cause psychological problems.

The researchers concluded that the more pupils are involved in cooperative learning experiences, *'the more mature their cognitive and moral decision making will become and the more they will tend to take other peoples' perspectives in account when making decisions' (2008, p. 19).* They attribute positive impact to the enjoyment of working with teammates towards the same goal, as opposed to the pressure of competitive learning, where the success of one pupil cannot be remarkable unless the rest fail. Receiving encouragement, assistance and explanations, for example, would create a positive learning environment, which reduces worry and increases the strength of psychological health. Subsequently, cooperative learning promotes positive social and interpersonal behaviour among pupils because of the interaction and development of relationships that it enforces. Furthermore, it encourages pupils to see things from other perspectives and, thus, broadens their viewpoints and understanding, making them less egocentric and more reflective in their thought processes.

An interesting finding reported by Pescarmona (2015) in Italy is the beneficial effect on the social status (and, hence, confidence and self-esteem) of "low-status" pupils, following the implementation of cooperative learning, attributable to recognition of a wider variety of contributions to tasks, and the positive feedback such pupils received.

Investigation into the preliminary factors necessary for cooperative learning in international research and cooperative learning approaches

Investigation into the necessary preliminary factors in international research

The goal of the current research is to identify the characteristics of cooperative groups and the preliminary factors that must be considered when developing cooperative learning approaches and must be present for effective implementation of cooperative learning within

a classroom. This section investigates what distinguishes cooperative groups and what international research says about the preliminary factors necessary for cooperative learning.

The Cooperative Learning Group

As mentioned earlier in relation to definitions of cooperative learning, putting pupils in the same room and grouping them does not necessarily equate to cooperative learning. There are many types of groups in schools, such as study, project, reading and activity groups, but they are not necessarily cooperative learning groups. These groups may even lead teachers to an unfair judgment of the effectiveness of cooperative groups, since they may not include the preliminary factors necessary for effective cooperative learning. Johnson et al. (1998) argue that there are four main types of learning groups, only two of which include the preliminary factors necessary for cooperative learning. It is important to differentiate among these types of groups because various teaching approaches are often mistakenly perceived as cooperative learning even when they do not include the necessary preliminary factors.

The first type of group, the pseudo-learning group, occurs when pupils are assigned to work together but with no common interest to do so: members of the group may believe that they will receive a high-level assessment or a low-level assessment regardless of what the group does. Therefore, they still compete within the group, and there is no sense of team, unity or belonging to the group because they regard their teammates as competitors. They might even hide some knowledge and not contribute their best understanding to the group. According to Johnson et al. (1998), in this condition, the result of the group is less than the ability of the members as individuals. That means pupils would achieve higher marks if they worked individually. Clearly, this is not a cooperative learning approach and teachers who experience

such circumstances might lose trust in cooperative learning groups because the groups demonstrate insufficient knowledge.

The second type of group identified is the traditional classroom learning group, in which pupils are assigned to groups to perform tasks, but the teacher has not previously planned or structured the tasks as group work. The lack of task structure allows free riders to depend on other members' effort and loyalty. Thus, some members may do little or no work, whereas others are left to complete the entire task. This might yield a total result for the group that is higher than the ability of members who do not participate effectively in the task as a result of lack of preparation. Highly motivated pupils might feel that they have been used, which might reduce their effort and motivation. This approach does not use cooperative learning and may cause some teachers to misjudge the effectiveness of cooperative learning.

Third, cooperative learning groups involve pupils who are assigned to groups, with the work structured in such a way that pupils believe that they cannot succeed unless all group members succeed. The goal of the group is to enhance the learning of all group members, to push each member to do his or her best and to achieve higher marks than members' individual learning level. Group members succeed together or fail together. Members have a responsibility to themselves and to the others in the group to achieve higher and better results in their joint efforts. Group members work face to face to produce joint outcomes and support each other through assistance, exchange, explanation and encouragement, as well as academic facilitation. In addition, pupils will learn social skills that are useful in group work. Group and task performance skills and acceptance of circulating leadership are among the most important elements of cooperative learning. Generally, the group analyses its effectiveness and strategies for achieving group goals and the extent to which each member has contributed. These qualities are integral to the efficiency of cooperative learning groups

because without them the groups will not be cooperative. These aspects help to distinguish and differentiate cooperative learning from other learning methods. Therefore, teachers must ensure that the preliminary factors of cooperative learning are incorporated into each group. In cooperative learning, all pupils achieve better academic results than they do if they work individually (Slavin, 1996; Slavin and Cooper, 1999; Putnam, 1998; Johnson and Johnson, 2008).

The last type of group identified by Johnson and Johnson is what they call a high-performance cooperative learning group which involves a learning strategy where performance is above expectations of the ability of some members of the group. It is distinguished from the previous category of cooperative groups by the commitment of members to each other and to the success of the group. However, this type of group still relies on the principles of cooperative learning groups. Therefore, it is not a different form of cooperative group, but rather the most effective type of cooperative group, because of the high performance level. Johnson et al. (1998) proposed that distinction between cooperative learning and high-performance cooperative learning may make the notion of cooperative learning difficult to understand, especially for teachers who are new to this approach. In order to clarify the nature of cooperative learning and achieve the best results from cooperative learning, preliminary factors necessary for its implementation will be highlighted.

<u>Necessary Preliminary Factors</u>

Shaaban and Ghaith (2000), Slavin (1995), Chambers and Abrami (1991) and Bossert (1988) commented on a shortage of research to test under which conditions cooperative learning works most effectively. Chambers and Abrami noted that *'[l]ess is known about the mechanisms behind these cooperative learning strategies and the processes that take place*

in cooperatively structured classrooms' (1991, p. 140). More recently, however, Johnson and Johnson (2003) and Gillies (2007) defined five preliminary factors necessary for successful cooperative learning:

- Positive interdependence

- Individual and group accountability

- Promotive interaction

- Interpersonal and small group skills

- Group processing

Similar lists have been proposed by other researchers also. For example, Slavin (1995) and Kagan (1994) suggested that certain preliminary factors are necessary for cooperative learning; however, they did not include group processing among them, suggesting only four preliminary factors in the definition of cooperative learning: positive interdependence, individual and group accountability, promotive interaction and interpersonal and small group skills.

Johnson and Johnson (2003), as well as Kagan (1985), ranked positive interdependence as the most important factor of cooperative learning. Positive interdependence means that pupils are assigned a clear task as a group goal and believe that they fail or succeed together. Positive interdependence occurs when pupils realise that they are linked together and no one group member can succeed unless all group members succeed. In addition, when any one of the group members fails, it means that all group members fail. This encourages students to feel that their efforts benefit not only themselves but all members of the group. Such positive interdependence creates in pupils a sense of responsibility towards other pupils in the group

as well as to themselves; therefore, all group members are working together for their own benefit and that of the rest of the group. Gillies stated that:

> *when students are placed in groups where positive interdependence does not exist, the students will not perceive that they are working cooperatively and will either work in competition with each other or individually to achieve their own goals (2007, p.33).*

Johnson and Johnson (1990) categorised two types of interdependence: outcomes interdependence and means interdependence. Outcomes interdependence is when pupils share the same motivation to achieve the same goal or group goal, such as establishing reports and presenting findings. Johnson (2003) claimed that the outcomes are higher more as a result of positive goal interdependence than with individual efforts. Furthermore, having goal and reward independence would likely increase achievement more than having only goal interdependence. Means interdependence exists when pupils share the same resources to achieve the group goal. Alhodithy (2009) extends the definition to sharing of roles and tasks among group members.

Individual and group accountability requires that the group be responsible for achieving its aims and that each member be responsible for completing his or her part so that everyone is dependent on other people's efforts. Significantly, Gillies (2007, p.39) added that *'this includes not only being responsible for completing one's individual task but also ensuring that others complete theirs'*. Johnson et al. (1998) emphasised that the group should be able to understand its goals clearly and be able to measure its success in achieving those goals as well as the individual efforts of each member of the group. Positive interdependence emerges after assessment of the performance of each pupil, where the result is returned to the group to inform it of each member's difficulties and areas for improvement. Therefore, each team member can improve his or her knowledge with the support and assistance of the rest of the group. Johnson and Johnson (1999) stated that the purpose of cooperative learning groups is

to make each individual stronger and better, which means by learning together, pupils are enabled to perform better as individuals. In order to ensure the availability of individual and group accountability, Gillies (2007) suggested that teachers should provide external requirements for completing specific tasks, to verify that each member has participated effectively in the task.

Promotive Interaction is the third factor considered essential in cooperative learning groups. Sharan and Sharan (1992) considered promotive interaction among group members to be essential to the success of cooperative learning as a method, while Webb (1985) argued that interaction differentiates cooperative learning methods from other learning strategies. According to Johnson et al (1998), pupils need to work together in sharing a task to increase each other's success by contributing to the use of resources and providing assistance, support, encouragement and praise for each other's learning. Interactions among group members are "promotive" in the sense that they encourage others to perform in such a way as to achieve their shared goals (Hoon, 2004). Promotive interaction occurs when individuals encourage each other's efforts to achieve the group's aims; thus, it is similar to positive interdependence but, whereas positive interdependence directly influences results, the main function of promotive interaction is to facilitate and encourage group members' effort (Alhodithy, 2009). This means that positive interdependence and promotive interaction depend on each other as essential elements in effective cooperative learning because they enable each other as preliminary factors. Gillies (2007) considered the benefits of such interaction:

> *When children dialogue together, they learn to use language to explain their ideas and experiences, negotiate meaning around a task … and when children demonstrate goodwill toward others and a willingness to promote each other's learning, they are more likely to feel accepted and valued, less anxious and stressed, and more willing to reciprocate and help others in turn (2007, p. 37).*

The fourth preliminary factor of effective cooperative learning is interpersonal and small group skills. Johnson et al. (1998) confirmed that pupils need to learn group work and interpersonal skills as well as academic skills at the same time, which makes the nature of cooperative learning more complex than individualistic or competitive learning. Slavin argued that:

> *It is possible to create conditions leading to positive achievement outcomes by directly teaching students structured methods of working with each other (especially in pairs) or teaching them learning strategies closely related to their instructional objective (especially for teaching reading comprehension skills) (1995, p. 45).*

Fundamentally, Slavin argued that interpersonal and small group skills are important and can be taught by relating them to each other. Therefore, working in small groups can encourage social skills whilst also enabling the teaching of academic knowledge. Johnson et al. (1998) suggested that pupils should learn to lead effectively, make decisions, build confidence, create good communication, solve conflicts and hone these skills. Johnson et al. (1998) highlighted four critical rules for pupils to achieve group goals: a) befriend each other and trust each other; b) communicate effectively with each other; c) respect and assist each other; and d) resolve conflicts between each other. Gillies (2007) similarly emphasised skills that should improve interaction among pupils, dividing the necessary skills into two dimensions: interpersonal skills, such as actively listening to each other, stating ideas freely, accepting responsibility for one's behaviour and providing constructive criticism, and small-group skills, such as taking turns, sharing tasks, making decisions democratically, trying to understand other people's perspectives and clarifying differences. Developing these skills requires effective learning through dialogue, discussion and support, which should be presented in each cooperative lesson to upgrade the quality of the learning to the highest potential. Gillies argued that *'providing students with individual feedback on how they use*

these skills not only helps to create more positive relationships, but it also helps to increase

students' achievement' (2007, p. 42).

Farzaneh and Nejadansari (2014) suggested that cooperative learning promotes social skills such as speaking appropriately to others and being respectful, and they also classified making optimum use of the time available as a social skill.

The fifth preliminary factor of cooperative learning is group processing. This occurs when members discuss the extent of their success in achieving their goals and the extent to which they maintained effective working relationships. Johnson et al. (1998) suggested that for the continual improvement of learning processes, groups must revise the behaviours that should or should not be used to enhance the effectiveness of group work. Gillies (2007) highlighted three social skills in which each member of the group should participate at least once: (a) summarising group members' ideas and information, (b) encouraging members to participate in group discussions and (c) checking to ensure that group decisions are supported by all group members. The desire to improve the group's work and to achieve group objectives requires modification and review of the work of individuals within the group to discourage disadvantageous behaviours and promote effective behaviours.

Table 2.1 illustrates what researchers have focused on as preliminary factors to cooperative learning.

Table 2.1: Researchers' Findings Regarding Preliminary Factors.

Researcher	Preliminary Factors
Brody and Davidson (1998)	1. Organising students, with an emphasis on the importance of preparing the class before the start through teaching small group skills. 2. Sharing common tasks to achieve shared results so that pupils know they must work together to achieve a collective reward. 3. Communication and good social behaviour skills that encourage pupils to work together. 4. Interdependence and individual accountability among group members so that pupils must participate as much as they can, demonstrating their own personal duties and their recognition of the necessity for unity within the group.
Johnson and Johnson (1999, 2003)	1. Positive interdependence. 2. Promotive interaction. 3. Interpersonal and small group skills. 4. Individual and group accountability. 5. Group processing.
Slavin (1995)	1. Positive interdependence. 2. Promotive interaction. 3. Interpersonal and small group skills. 4. Individual and group accountability.
Kagan (1985; 1994)	1. Positive interdependence. 2. Promotive interaction. 3. Interpersonal and small group skills. 4. Individual and group accountability.

Johnson and Johnson (2003) claimed that applying the necessary preliminary factors of cooperative learning would allow teachers to: a) plan lessons and the curriculum in a cooperative manner; b) adapt cooperative lessons to educational and learning needs; and c) determine problems that pupils might face during joint work and intervene to increase the

effectiveness of pupils' learning groups. These preliminary factors provide an outline of what cooperative learning is and what needs to be included for learning to be considered cooperative. Therefore, if teachers implement cooperative learning, the preliminary factors must be well established and found in the lesson to increase learning effectiveness. Johnson et al. (1998) claimed that to successfully implement cooperative learning, teachers must clearly build each lesson for cooperative work on their suggested five preliminary factors.

While other researchers may disagree as to the exact number of factors or the way they define them, they show substantial agreement with Johnson and Johnson (1999; 2003) on the conditions that must be established for successful cooperative learning to take place. The next section shows how the preliminary factors are provided for in a number of popular cooperative learning approaches.

Investigation into the preliminary factors within cooperative learning approaches

When the term cooperative learning is used, some might assume it refers to a single method. However, in reality, it encompasses many approaches, including Learning Together, Student Teams-Achievement Division (STAD), Teams-Games-Tournament (TGT) and Jigsaw and Jigsaw II. Slavin and Johnson and Johnson, who were among the pioneers of cooperative learning, developed six of the nine most commonly used and researched cooperative approaches: STAD, TGT, the Jigsaw II method, Team Accelerated Instruction (TAI), Learning Together and Cooperative Integrated Reading and Composition (CIRC). The other three important cooperative methods are: Jigsaw I, Group Investigation and the Co-op Co-op approach. These also demonstrate the preliminary factors involved in cooperative learning in their implementation. In this section, the significance of these approaches and their illustration of the preliminary factors will be discussed and analysed. All of these methods

are fundamentally based on working together, but there are differences in the manner of application. Understanding these different approaches will lead to better insight into the definition of cooperative learning, its preliminary factors and its implementation, which is a starting point for understanding the challenges posed by cooperative learning. Some of the most popular approaches will be explained to illustrate the differences among them.

Learning Together (Johnson and Johnson, 1966)

This method was developed in a teacher-training course on how to apply cooperative learning, at the University of Minnesota. It is one of the most easily implemented and widely practised cooperative learning methods (Nieme, 2009). Heterogeneous groups contain four or five members and each group is required to complete worksheets about the project or task, with the reward depending on group grades.

Johnson and Johnson (1994) emphasised several elements that should be included to achieve success in Learning Together:

a) It should combine three types of cooperative groups: formal cooperative learning, informal cooperative learning and cooperative-based groups.

b) It should incorporate the five preliminary factors of cooperative learning: positive interdependence, promotion of interaction, individual and group accountability, interpersonal and small group skills and group processing.

c) The lesson and the classroom should be structured in a cooperative learning manner.

d) Schools change from competitive and individualistic organisations of mass-produced education to cooperative organisations that are based on teamwork.

Therefore, Learning Together requires not only the restructuring of the classroom and the roles of teacher and pupil, but also the restructuring of the educational institution itself as well as widespread changes in attitudes towards education. This necessitates training for teachers in the various methods and types of cooperative learning strategies.

Group Investigation (Sharan and Sharan, 1976)

Group Investigation, developed at the University of Tel Aviv, is a complex approach, which gives pupils the chance to choose what they want to learn and join other students with common interests. Teams choose topics of a unit being studied, divide the topic into individual tasks and prepare a group report after discussion and investigation. Then, each group delivers its report to the whole class for discussion. This is a sound approach to studying research because pupils can research a topic within a unit that interests them; they learn how to research specific sections of a topic in detail and present their findings to others in relation to the whole topic. This requires individual and group accountability, since each pupil must present his or her section to the group and the group has to present these sections as a whole to the rest of the class. This encourages positive interdependence because the group must work together and rely on each other for group success. Furthermore, interpersonal and social skills are acquired because the pupils must plan their study together and share the presented work.

Sharan and Sharan (1994) suggested four basic features of Group Investigation:

a) Investigation as described by Sharan and Sharan:

> *When the classroom is carrying out a Group Investigation project, it becomes an "inquiring community," and each student is an investigator who coordinates his or her inquiry with the class's common purpose ... the investigation begins when the teacher poses a challenging, multifaceted problem to the class ... the process of*

investigation emphasizes students' initiative, as evidenced by the questions they pose, by the sources they find, and by answers they formulate (1994, p. 98).

Pupils become more involved in the learning process because they share responsibility for the investigation with each other. This means that teachers are the initiators of the group inquiry and pupils must progress together as they formulate a conclusion by sharing their knowledge, experience and opinions.

b) Interaction is pivotal to this learning approach because success only occurs via pupils' discussing issues throughout the investigation, examining sources, summarising their finding and planning the final presentation of their findings to the rest of the class.

c) Interpretation is also essential to group investigation because pupils must exchange ideas to combine the information of all group members to arrive at one agreed-upon conclusion.

d) Intrinsic motivation is a product of positive interdependence, interpersonal skills, individual and group accountability and social skills because students must promote interaction to motivate each other during the investigation. Moreover, pupils take an active role in what and how they learn because to investigate they must relate the task to their own experience, opinions and curiosity so as to discover more information and reach a joint conclusion.

Consequently, teachers do not give information to pupils but help pupils to facilitate their own learning together. This learning strategy includes all of the five essential elements of cooperative learning that were proposed by Johnson and Johnson.

Students Team-Achievement Divisions (STAD) (Slavin, 1978)

STAD is an approach in which the teacher divides the pupils heterogeneously into four-member learning teams according to their skills, abilities, race and gender. The teacher first

explains the lesson and then the groups of students review and discuss it to ensure that all group members understand it. This activity can span three to five class periods. Every student must understand the material because teammates cannot help each other on quizzes. Students' individual scores on quizzes are compared to past scores, and individual points are added to yield a team score. Teams reaching a specified score earn a certificate or other reward (Slavin, 1995).

In a review of several CL models, Sharan (2015) noted that STAD is highly structured, and involves a change in the method of presenting material, rather than in the material itself, and so is a popular choice for teachers new to CL.

Kagan (1985) described five essential elements of successful STAD:

a) Class presentations, where the teacher initially presents the task to the whole class.

b) Teams, in which the structure of the groups is heterogeneous and thus selected in accordance with gender, ethnic background and ability level. Furthermore, the teams, which consist of four or five pupils, are encouraged to work in a peer-tutoring style in which they test each other to master the materials.

c) Quizzes, which evaluate individual achievement to test each member's understanding.

d) Individual improvement scores, which are a systematic record for comparison of students' achievement with previous scores to acquire points for their groups based on their improvement.

e) Team recognition, which uses weekly social rewards and recognition for the most improved students and groups, for example via newsletters or bulletin boards, to socially acknowledge the best performance from groups and individual group members.

This list suggests that STAD involves students teaching and supporting each other in the learning process. The method of assessment and reward unites students, since the success of the group depends upon each team member. This means that positive interdependence is promoted throughout the lesson. Subsequently, the role of the teacher also changes because the learning process and responsibility are shared between teacher and pupil rather than being teacher oriented. Therefore, individual and group accountability is important because individual scores are added to group scores, so all pupils must understand and perform well for the whole group to be rewarded. Similarly, Slavin (1995) described three central concepts for successful use of STAD: team rewards, individual accountability and equal opportunity. The introduction of team rewards encourages group learning, motivates students to take responsibility for their own learning and that of other team members and enables all students to achieve and improve equally. Consequently, the lessons become student-centric because students assist and assess each other in the learning process. Promotive interaction is encouraged because students learn together by checking and monitoring each other for full understanding. This also requires interpersonal and small group skills to achieve good results.

Team-Games-Tournaments (TGT) (De Vries et al., 1978a)

TGT on which Slavin also collaborated operates in a similar way to STAD, but with weekly academic tournament games in forms other than quizzes and a bumping system that is implemented using individual improvement records. Games are held in three-pupil 'tournament tables', which gather pupils with a similar performance level from each group. Pupils cooperatively study the task and prepare each of their teammates for the tournament. Team members then play games against equally skilled members of another team to earn points. This involves positive interdependence because students support and prepare each other for the games, which in turn entails promotive interaction since team members

concentrate on encouraging productivity in the rest of the group. This system means that the teacher's role is minimised whilst the pupil's role is maximised, because the responsibility for learning is centred on the pupils as individuals and as group members. Six points are given to the winner and added to his or her team score for a sense of group success, but individual scores are still recorded so that students can also earn individual points. Therefore, TGT enforces individual and group accountability because team members must help each other but are on their own when performing in tournament games, and their individual results are recorded. Tournament tables are grouped homogeneously so that ability levels are similar; thus, high-ability pupils play against other high-ability students and low-ability students play against each other. This creates equal opportunities for success. The bumping system reassigns students to different tournament tables after each tournament, so that the winner from one table advances to the higher ability level table, whilst the lower scorer moves to a lower ability table. A criticism may be made of this model, that the emphasis on "winning" and the bumping system introduce a competitive element that appears antithetical to CL.

The Co-Op Co-Op Method (Kagan, 1985)

The Co-op Co-op method is similar to the Group Investigation method with regard to pupils' choice of topic of interest. Kagan confirmed that 'like group-investigation, Co-op Co-op is oriented toward complex, multifaceted learning tasks and students' control of what and how to learn' (1985, p. 73). Each member of the group focuses on the indicated part and presents it later to teammates. Teammates ask questions to gain more knowledge about the task. Then, each group presents its tasks to the other groups for discussion (Slavin, 1995). However, Co-op Co-op involves a simple classroom structure, because there is no steering committee and little communication between the groups.

Kagan (1985) described 10 elements of the Co-op Co-op method:

1) Pupil-centred class discussion is designed to inspire pupils' curiosity.

2) Selection of pupil learning teams is based on heterogeneity, similar to STAD, to increase equal opportunities for learning despite ability level, gender and ethnic background.

3) Team building enhances communication and cooperation among pupils.

4) Team topic selection involves pupils taking charge of the task and dividing it into units so that each team is able to choose and cover its preferred part of the task. The work of each team is then shared with the class so that the whole class masters the entire unit.

5) Mini topic selection: each pupil takes responsibility for becoming expert in one part of the task, but pupils can divide the topic among themselves rather than the teacher assigning the parts.

6) Mini topic preparation means that pupils process the task themselves and rely on each other to collect and organise their assigned mini topic.

7) Mini topic presentations incorporate two presentations: each pupil explains his or her part to the group, and then the group has the opportunity to discuss each individual's part to complete the topic together.

8) Preparation of team presentations involves each team preparing to present the selected topic to the whole class.

9) Team presentations to the whole class ensure that all pupils are educated on all aspects of the task. Non-lecture presentations such as demonstrations and role plays are preferred.

10) Each individual presentation to the team is evaluated by teammates, team presentations to the whole class are evaluated by teammates and each individual report from pupils on their mini topic is evaluated by the teacher.

A high level of positive interdependence is involved in this strategy because pupils must work cooperatively in their discussion and presentation of work. Individual and group accountability also exists since each pupil has specific responsibilities for his or her part of the task and the group as a whole shares the responsibilities of presenting the task to the rest of the class. This requires pupils to have communication skills. Therefore, the teacher's role becomes more supervisory, because the pupils are more involved in teaching each other and learning by communicating with each other. Thus, interpersonal and small group skills emerge because pupils must cooperate with each other. Furthermore, through the mini topic presentations, this approach also includes the promotion of interaction as a preliminary factor because pupils rely on feedback and support from each other before they present the topic to the whole class.

Cooperative Integrated Reading and Composition (CIRC) (Madden et al., 1986)

CIRC was developed to teach reading and writing in upper elementary and middle grades. Pupils are assigned to reading teams in pairs with two or more reading levels. There are three concepts: basic related activities, direct instructions in reading comprehension and an integrated piece of writing about the reading topic. Pupils in pairs read and summarise to each other, write drafts and perform cognitive activities. They might also be asked to present their work to the whole class. There are teacher instructions, team activities and team preparation for assessments and quizzes. Quizzes are given individually and the reward is

based on the average performance in reading and writing activities (Sharan, 1994; Slavin 1995).

With this method, positive interdependence is prevalent because the pupils help each other to read and write hence, promotive interaction is also incentivised. Since pupils must present their work to the rest of the class. Communication skills are, also practised, which promotes interpersonal and small group skills. Pupils take responsibility for correcting each other so that individual and group accountability becomes a key element within this learning technique. Consequently, the teachers' and pupils' roles change because the emphasis on learning and teaching is transferred to the pupils.

Team Accelerated Instruction (TAI) (Slavin et al., 1986)

TAI was developed specifically for the teaching of mathematics in grades 3 to 6. As in STAD and TGT, pupils are assigned to four-member heterogeneous groups of varying ability, but TAI mixes cooperative learning with individualised instruction. Each member takes a placement test and then works on a specific unit to improve his or her score. Teammates monitor each other and are responsible for helping each other prepare for the individual quizzes; these are scored by two monitor pupils from different teams who are selected by the teacher and change every day. Positive interdependence and promotive interaction are, therefore, essential elements in this strategy because pupils must rely on each other. This increases the importance of their roles because they must monitor themselves and each other. The teacher gives recognition based on criteria tested in the final test. Both individual and group accountability are aspects of this learning strategy; both are rewarded in that individual and team scores are recorded and certificates are awarded as an incentive. The main role of

the teacher becomes that of assistant and examiner, because teachers must pre-prepare tests and supervise the pupils' teaching of and learning from one another.

Jigsaw I (Aronson et al., 1987)

Pupils are assigned to six-member 'home' teams. The task is divided into sections. Each pupil is given one section to study in depth, so as to become an expert in it. Then, experts on the same section meet and discuss it in 'expert groups'. After these experts have gained a thorough understanding of their section, they return to their home teams and present the material to the other members.

Kagan (1985) emphasised six elements needed to reap the benefits of Jigsaw I:

a) Specially designed curriculum materials, which means the teacher divides the task into sections and gives each member of the group only a specific section that makes sense on its own without reference to other sections. This enhances the idea of experts because each member has something unique and different to offer the group.

b) Team-building and communication training, which is necessary because this system enforces the groups' need for communication, since group members must question and understand each member's part in order to decipher the whole task. Pupils should be trained to build a team and cooperate in the most effective manner, and this can be accomplished through role playing or brainstorming, for example.

c) Pupil group leaders, who are assigned by the teacher and should be trained extensively in team-building skills, including how to organise the group, progress from one part of the task to another, manage conflicts, liaise between the pupils and the teacher and keep the group

focused on the task. Therefore, teachers must use their initiative when deciding which pupils would be most appropriate as group leaders.

d) Teams, which should be the same size, from three to seven, but five or six are preferable. The teams should be grouped heterogeneously with regard to age, gender, ability, ethnic background and personality traits.

e) Expert groups, in which members from different groups join together to share the same part of the task; they must discuss and sufficiently understand the topic before they return to their home groups and present their section of the task.

f) Individual assessment and reward, which involves the pupils taking tests or quizzes on the whole task to make sure that all pupils have mastered the unit. There is no group or individual reward.

This system of learning encourages individual and group accountability because each member of the team must understand and explain his or her section of the task to the rest of the group; furthermore, it is focused on team members' understanding of presentations on the other sections of the task required to pass the end-of-unit test. Therefore, positive interdependence is also necessary because the team members rely on each other to understand all sections of the task. Interpersonal and small group skills are also required because pupils must relay information to each other and are placed into two different small groups: expert groups and home groups. In addition, group processing is promoted because team members must work together through team-building exercises and communication training before they use these skills to present their section of the task to the rest of the team. Promotive interaction is, accordingly, also a primary element of this learning system because pupils must motivate each other, especially those assigned as group leader. Jigsaw I requires, teachers to be trained

in how to structure a task and its sections whilst also providing additional materials to enhance the curriculum. Teachers must also oversee the groups' work to facilitate the learning process. In addition, teachers must train pupils in effective team-building and communication skills; thus, pupils' roles become more active because they must present to each other, support each other and directly involve themselves in the learning process.

Jigsaw II (Slavin, 1987)

Jigsaw II is based on Aronson *et al.*'s (1978) Jigsaw I method. With the Jigsaw II method, pupils work in four-member heterogeneous teams. They read the whole learning task, but each member is assigned randomly to be responsible for one part of the task. Pupils join their expert groups to read aloud and discuss their understanding of their part with other experts. Then, they return to their home groups and report what they have learned about their allotted part of their task. Finally, a test is given to determine individual grades for understanding of the whole task. Individual scores contribute to a team score so that pupils receive individual and team recognition. Therefore, the reward in Jigsaw II operates in a similar manner to STAD and TGT.

Kagan (1985) pointed out three essential differences between Jigsaw I and Jigsaw II:

a) Use of existing curriculum materials and universal access means that positive interdependence among pupils is reduced, since each pupil has access to the whole task. However, the use of existing curriculum materials is practical and economical.

 c) Use of STAD scoring and team recognition techniques in Jigsaw II means that there is systematic scoring and recognition for teams and individuals that depend on the level of improvement. This is absent in Jigsaw I, and Jigsaw II uses four members rather than five or six. Jigsaw II also eliminates use of the personality factor existing in Jigsaw I, but groups are

categorised heterogeneously with regards to gender, age, ability and ethnic background, as in STAD and TGT.

d) Absence of team building and differentiated student roles means that there is no communication and team-building training or assigned group leader. Thus, this eliminates the initiative of the teacher.

Although positive interdependence is still an important element of this learning strategy, the need for positive interdependence among pupils is reduced because pupils have access to all information about the whole task. However, pupils are nevertheless encouraged to promote positive interdependence because they must report back to the rest of their group what they have discussed in their expert groups. Promotive interaction is encouraged in this learning strategy, since achievement is rewarded with team scores, so pupils will motivate and encourage each other in order to increase their team scores. Individual and group accountability is, consequently, an essential aspect of this learning strategy because pupils must do well both individually and as a group to achieve high individual and group scores and receive a reward.

Table 2.2 summarizes the different cooperative learning approaches outlined above and their use of the preliminary factors of cooperative learning.

Table 2.2: Cooperative Learning Approaches and Their Use of Preliminary Factors.

Cooperative Learning Approach	Researcher	Description	Preliminary Factors Included
Learning Together (LT)	Johnson and Johnson (1966)	Heterogeneous groups are required to complete worksheets about a task. Rewards are dependent on group grades.	• Positive interdependence. • Promotive interaction

			• Interpersonal and small group skills.
			• Individual and group accountability.
			• Group processing.
Group Investigation (GI)	Sharan and Sharan (1976)	Teams choose topics of a unit being studied and then subdivide this topic into individual tasks and prepare a group report.	• Positive interdependence. • Promotive interaction • Interpersonal and small group skills. • Individual and group accountability. • Group processing.
Student Teams Achievement Divisions (STAD)	Slavin (1978)	Pupils are divided heterogeneously into four-member learning teams. The teacher explains the lesson and the groups review and discuss it to ensure that each member has understood. Then individual quizzes are taken, with individual points being summed to yield a team score.	• Positive interdependence. • Promotive interaction. • Individual and group accountability. • Interpersonal and small group skills.
Teams-Games-Tournaments (TGT)	De Vries et al.(1978)	Three-pupil "tournament tables" gather pupils with similar performance levels from each group. Pupils cooperatively study the task and prepare each of their teammates for the tournament. Team members then play games against equally skilled members of another team to earn points for their team.	• Positive interdependence. • Promotive interaction • Individual and group accountability.
Co-op Co-op	Kagan (1985)	Each member of the group is assigned to an aspect of the task and presents that aspect to teammates.	• Positive interdependence. • Promotive interaction • Individual and group accountability. • Interpersonal and small group skills.

Cooperative Integrated Reading and Composition (CIRC)	Madden et al.(1986)	Pupils are paired with partners of different reading levels and summarise, write drafts and perform cognitive activities with each other.	• Positive interdependence. • Promotive interaction • Interpersonal and small group skills. • Individual and group accountability.
Team Accelerated Instruction (TAI)	Slavin et al. (1986)	Four-member heterogeneous groups of varying ability take a placement test and then work on a specific unit to improve their scores. Teammates monitor and help each other.	• Positive interdependence. • Promotive interaction • Individual and group accountability.
Jigsaw I	Aronson et al.(1987)	There are six-member 'home' teams. The task is divided into sections. Each pupil is given one section to study and become expert in. Experts on the same section join to discuss it in 'expert groups'. Members return to their home teams and present the material to the 'home' team members.	• Positive interdependence. • Promotive interaction • Interpersonal and small group skills. • Individual and group accountability. • Group processing.
Jigsaw II	Slavin (1987)	Four-member, heterogeneous teams read the whole learning task. Each member is randomly assigned responsibility for one part of the task. Pupils join their expert groups to discuss their understanding of the part with other expert members. They return to their home teams and explain what they have learned about their allotted part of the task. Tests generate individual scores, which add up to group scores.	• Positive interdependence. • Promotive interaction • Individual and group accountability.

A common element in the above models is that they call for teachers to develop students' social and communication skills, monitor how groups work together, and guide reflection

(Sharan, 2015). Similar principles appear to be incorporated in the Storyline model developed in Scotland in the 1960s and subsequently widely used internationally (Ahlquist, 2015), although it does not purport to be a CL model. It is an interdisciplinary approach in which a fictive world is created in the classroom. Learners take on the role of characters in the world and engage in small-group work guided by key open questions posed by the teachers.

In all of these approaches the roles of the teacher and pupils change significantly, which is why in the next chapter the roles of the teacher and pupils will be considered in relation to the implementation of cooperative learning. This will enable teachers to recognise what they need to do and how they need to prepare themselves and their pupils for these changed roles before they implement the preliminary factors to apply cooperative learning.

The Preliminary Factors for this Research

After analysing the pioneering researchers' definitions of cooperative learning and examining them alongside various cooperative learning approaches, this research proposes the following five preliminary factors as imperative to cooperative learning: a) positive interdependence; b) individual and group accountability; c) promotive interaction; d) interpersonal and small group skills and e) group processing. These factors have been drawn primarily from Johnson and Johnson's thoughts on cooperative learning. They will be used in this thesis as a starting point for considering the preliminary factors necessary to achieve the desired form of cooperative learning because this list fulfils all of the criteria of cooperative learning suggested by other researchers, such as Kagan (1994) and Slavin (1996).

It is assumed that the advantages of cooperative learning approaches are only effective when cooperative learning is implemented correctly based on its preliminary factors. Significantly,

cooperative learning must be structured in the right way and all its factors must be understood to achieve what is expected from it. At the same time, it is possible that in a very different cultural context such as Saudi Arabia, some of the preliminary factors identified predominantly from the US context may be understood differently, or even irrelevant, while other factors not previously identified may be more salient. This study will help to uncover such possibilities.

Conclusion

This chapter has reviewed the definitions and meaning of cooperative learning. It has illustrated the preliminary factors through researchers' analysis of cooperative learning. It has also explained the most common approaches of cooperative learning and provided descriptions of how they can be applied in practice and the preliminary factors that each include. Furthermore, from this analysis this chapter has identified five preliminary factors that form the basis of cooperative learning. This provides teachers with an outline of the necessary elements that must be incorporated when implementing cooperative learning. Therefore, these are the preliminary factors that will be investigated in the Saudi Arabian educational context.

Chapter 3

The Implementation of Cooperative Learning Techniques: A Review of the Literature

Introduction

This chapter examines the role of the teacher and pupil in relation to successful implementation of cooperative learning, developing the previous chapter's examination of preliminary factors and illustrating their implications for the implementation of cooperative learning. It explores the skills and attitudes that must be embedded within the class and their reflection in practices, for this learning strategy to be most effective.

Blatchford et al. (2005) suggested that to implement cooperative learning successfully in classrooms teachers need to prepare and organise their lessons, the pupils need to be taught interactional skills prior to the lessons and teachers themselves need to be trained in how to work effectively with groups. The more insightful their understanding of their roles in cooperative learning as teachers, the more likely it is that they will increase their contributions to the success of effective implementation of cooperative learning. The chapter accordingly reflects these emphases. The first section addresses teachers' responsibilities in cooperative learning, and the complementary role of pupils, drawing on a framework suggested by Johnson and Johnson (2008). This is followed by a discussion of the necessity for teachers to train pupils in the requisite skills for cooperative learning. The chapter concludes with a focus on the support and training that teachers will need in order to adapt their practice to a cooperative learning situation.

Together with the insights from the previous chapter, this chapter will offer a framework for investigating prevalent practice and the problems and constraints of implementing cooperative learning in Saudi Arabia.

Teachers' Role and Responsibilities in Cooperative Learning

Teachers play a significant role in enhancing a school's learning environment and reputation. Rutter and Maughan (2002) noted that many studies have emphasised the key role of teachers in increasing the efficacy of schools and pupils' academic achievements, which links to applying effective teaching methodology. Teachers who might not fully understand the importance of their role as a teacher in cooperative learning could diminish the benefits of cooperative learning in a classroom. Gillies (2007, p. 51) added that *'the role the teacher plays in establishing cooperative learning in the classroom is critically important for its success'*.

Well-trained teachers act as supervisors who monitor learning and not just as presenters distributing information. Teachers specify the learning objectives and the formation of learning groups; however, in some cooperative learning methods, pupils have the opportunity to choose their tasks and their interests. Teachers also need to explain, train and promote the basic concepts and strategies to pupils. This teaches them to work in small groups and to consider evaluation processes. Teachers then inspect the work of the various educational groups to assess their progress. Consequently, the aim of this learning strategy is not only to promote achievement and knowledge but also to teach wider useful life skills and produce socially successful citizens. Johnson and Johnson (2008) summarised the teacher's roles:

1- Decision making determines academic and educational goals, group numbers, which groups pupils should be assigned to, organisation of the class, preparation of learning materials and the roles assigned to pupils to assure positive interdependence.

2- Lesson preparation involves explaining the academic task, building positive interdependence, creating individual accountability, generating cooperation between groups, illustrating the criteria for success and identifying the expected behaviour.

3- Inspection and intervention promotes face-to-face interaction, allows for examination of the behaviour of pupils in their groups, facilitates and assesses the achievement of the task and intervenes to promote cooperative and group skills.

4- Evaluation and group processing evaluates pupils' learning, encourages positive skills within group processing and concludes the lesson with pupils sharing their experiences.

When teachers fully understand all aspects of their roles, the pressure of potential failure or uncertainty is minimised and courage and confidence are maximised in applying cooperative learning. The following sub-sections will elaborate on each of the above-mentioned roles in turn.

Decision-making

Planning for cooperative learning requires decisions to be made on a number of elements, either by the teacher individually, or by teams of teachers on a school-wide basis (Sharan, 1994). In order to do so, teachers need to understand how cooperative learning works and should be structured.

According to Veenman *et al.* (2000, p. 283), *'teachers must understand the nature of cooperative learning and the components of a well-structured cooperative lesson in order to use cooperative learning effectively'*.

The management of cooperative learning is about understanding what the teacher should do and what the teacher needs to learn (Hertz-Lazarowitz and Calderon, 1994). Hertz-Lazarowitz and Calderon discussed such management in their model as involving a wide range of skills and knowledge about orchestrating and understanding learning in a cooperative classroom.

The preparation of cooperative learning lessons is a key component to successful implementation of cooperative learning. Teachers must decide on and carefully prepare tasks, rewards and assessments to promote the key elements within the learning process. The environment also must present equal opportunities to pupils with differing ability; thus, the size and similarity of groups demonstrates that cooperative learning needs a suitable atmosphere within the class among pupils. Due to the differences among cooperative learning approaches, the lessons should be tailored for each approach. Moreover, consideration of some common aspects enhances the possibility of success, for example, how to divide pupils to give them equal opportunities to increase their abilities.

Gillies (2007) considered that a key part of the teacher's role is ensuring that groups are well structured, which means that the preliminary factors are in place. The absence of any one of the preliminary factors decreases motivation, support and exchange of responsibility to achieve group goals. The evidence of these factors is the difference between structured and unstructured cooperative groups. Beck and Chizhik (2013) advocate assigning specific roles to group members, and suggest that roles may be used to focus attention on particular aspects

of the topic being studied or may be designed to support group functioning- the role of reporter, for example.

One of the main decisions to be made is how to adapt the curriculum to cooperative learning lessons. This may be a difficulty in education systems where teachers have little or no autonomy in such matters (as is the case in Saudi Arabia). Fear and worry about completing the required curriculum may reduce motivation to apply a new method, so teachers tend to be cautious and apply traditional methods because these are regarded as safer. However, one of teachers' key roles is to teach pupils how to learn. With traditional learning methods, teachers teach the curriculum to pupils so that pupils receive the necessary information, whereas the cooperative learning method transfers the responsibility for finding the information to the pupils, so they must work together to exchange and discover knowledge. Therefore, teachers and pupils share the responsibility for teaching and learning. This means that instead of planning to "cover" a block of content, teachers need to structure tasks in such a way that pupils will be enabled to construct the required knowledge together. Lehraus (2015), in a paper on teaching writing to Swiss primary school children gives a detailed illustration of how tasks can be structured to incorporate pupil interaction and cooperative skills. Teachers will also need to decide on the incentive strategies to be used to motivate pupils to complete the task. This requires teachers to determine their use of reward and task structures.

Task and reward structures are considered important elements that influence the quality and process of cooperative learning, although this is a highly contested area in cooperative learning which is why it must be assessed and reviewed. Vedder and Veendrick (2003) described task structure in terms of *the problems students have to solve' (p. 529).* The reward structure refers to the *'means used by teachers, tutors or peers to regulate students'*

willingness to learn, their motivation for, intensity and way of learning' (p. 529). There is

an interaction between task structure and reward structure. A simple task structure does not

need a special reward structure because feedback from the teacher can be considered to be

strong and sufficiently encouraging. However, in a complex task, a reward structure can be

used, but it should be organised carefully as pupils may otherwise have difficulty

understanding the task, which might reduce their interaction and discourage them. Slavin

(1987) examined the impact of task and reward structure in theory and the controversy

between the developmental and motivational approaches to cooperative learning. Slavin

(1983) thought that the task structure was the most important element; if teachers reward

pupils with anything more than verbal praise, they must do it at the end of the task or lesson.

Giving pupils a choice of topic or task is important as it may be personally significant to the

group, and Ryan et al. (1985) indicated that there is no need for external reward when pupils

are working on a topic of their choice because strong personal significance provides intrinsic

motivation. Similarly, Slavin (1980) suggested that pupils are better rewarded by self-

improvement than by comparison with others. Moreover, in giving rewards, there is the risk

that the classroom may become a competitive environment. This could impede the

cooperative and supportive nature of the classroom. Rewards within cooperative learning are

contested because many researchers, including Ryan et al. and Slavin, have suggested that

the reward is an unnecessary motivational device, since cooperation among pupils is enough

to encourage them. Consequently, it is teachers' personal decision whether or not to use

rewards. However, if teachers do use rewards, then they must research reward structures as

well as task structures. Furthermore, teachers need to remember that the focus and

responsibility for learning must remain with the pupils so pupils should not merely be led by

motivation to receive a reward.

Preparing the lesson

In their four-point framework, above, Johnson and Johnson (2008) defined preparation in terms of establishing on appropriate environment for cooperative learning, and their concern is actually not as much with preparing the lesson per se as preparing the pupils for what the lesson will require of them.

George (2002) stated the importance in group work of supporting pupils' need to feel comfortable working with classmates, to be willing to share ideas, to ask questions and to take risks that might occur as a result of setting rules and conditions that shape behaviours among pupils, such as listening when others are talking, criticising ideas but not the person presenting them, valuing and respecting each individual group member and helping others without doing the work for them.

Johnson and Johnson (2008) stated that trust is a necessary condition for stable cooperation and effective communication. Pupils should be encouraged to be open to expressing their thoughts, feelings, reactions, opinions, experiences, information and ideas while giving their teammates respect, acceptance and support to do the same so that group unity is formed and every member of the group has a desire to cooperate (Johnson and Johnson, 2008).

According to Kagan and Kagan (1994),Gillies and Boyle (2010) and Blatchford et al. (2007) to promote cooperative learning skills among pupils in the classroom, it is not enough to depend on the natural acquisition of social skills that pupils' might possess. They argued that it is the teachers' responsibility to structure learning such that pupils acquire social skills while they are doing their class activities, which requires: 1) assignment of roles and starting with attractive tasks, 2) modelling (choosing an appropriate model of cooperative learning) and using reinforcement, 3) structure in the classroom (tables and chairs) and the lesson

materials to support group work and 4) reflection (feedback) and planning time. With these tools, and as they interact in their cooperative groups, pupils will become competent in useful social skills such as listening, paraphrasing, taking the role of another, managing group processes and dealing with dominant, shy, hostile or withdrawn group members (Kagan and Kagan, 1994). In this way, pupils obtain skills, not just learn about them, because they are forced to use these skills with each other and practise them in different groups.

Brubacher (2004) noted that it is important for teachers to have access to a large variety of resources that can be used in addition to group-work assignments in textbooks. This gives pupils more information and provides teachers with different methods for enriching the lessons with cooperative learning tasks so as to increase participation and the sharing of knowledge and information.

This helps groups to reflect on interactions among members, to receive feedback from one another on performance, to develop and become friendlier and more effective and to select the cooperative learning methods most appropriate for the materials to be studied. Combining or integrating two or more methods, as circumstances require, affords pupils the best possible means for pursuing the study at hand (Mandel, 2003). Pupils can be advised on the selection of creative means for organising and presenting their work to their peers and to the teacher for evaluation (Johnson and Johnson, 2008).

Inspection and Intervention

Johnson and Johnson's (1999; 2003) use of the term "inspection" here is potentially misleading; perhaps 'supervision' would be better. What they mean is the teacher's responsibility for monitoring group processes and learning, intervening as necessary to facilitate pupils' cooperative efforts towards co-construction of knowledge. Brody (1998)

stated that teachers' notions of control and authority should be reconstructed to match their role in cooperative groups.

Foote and Cook-Cottone (2004) argued that using group work can change teachers' roles dramatically, so much so that the teachers are no longer 'teaching' because it has become their responsibility to facilitate pupils' learning and monitor their progress. Therefore, authority is given to pupils and their groups. Teachers remain in control of the class and it is their duty to ensure that the goals of the lesson are met. Furthermore, the teachers must ensure that the pupils receive the assistance they need to gain the knowledge required (Cohen, 1994a). Consequently, pupils in cooperative groups are empowered to make mistakes and correct themselves (Lerouge *et al.*, 2004), which will enhance their learning and help them remember these corrections in the future. Brubacher (2004) categorised various new roles for teachers; for instance, teachers are required to give direction, train pupils to apply the preliminary factors of cooperative learning, and, most importantly, ensure that groups are held accountable for their work.

In addition, teachers need to pay attention to how they verbalise their messages to pupils during cooperative learning. Teachers' verbal behaviour in cooperative learning is not the same as it is in the traditional classroom. Teachers in cooperative learning do not deliver the topic as in the traditional model. Rolheiser and Anderson (2004) claimed that cooperative learning methods discard teachers acting as presenters who are at the centre of the knowledge. Instead, teachers help pupils to explore in groups and guide them to academic and social understanding, rather than controlling them while telling them academic information. The lesson would be more learner-centred and, thus, not be a transfer of knowledge from teachers' minds to pupils'. Sharan (1994) confirmed that cooperative learning focuses on teaching from 'students to students' rather than from 'teachers to students'. Moreover, rather than ask

closed questions to check what pupils remember, teachers ask open questions that invite more than one answer, to find out what pupils know and think (Sharan, 2015).

The process helps to generate closer and friendlier relationships. In traditional whole-classroom instruction, teachers explain tasks and pupils remain silent unless asked a question. Hertz- Lazarowitz and Shachar (1990) conducted a study on teachers' verbal behaviour in cooperative learning strategies compared to whole-class instruction. They found that teachers' leadership styles focused on contact with small groups and individuals and on encouragement and facilitation of performance during cooperative learning lessons. Teachers become more like tutors, helping pupils think about problems and solve them for themselves. They act as the "guide on the side", facilitating learning by asking open questions, making general suggestions and encouraging pupils to search for information independently (Blatchford and Baines,2015).

Similarly reflecting the complexity of the teachers' role in cooperative learning. Brody (1998) explained that cooperative learning requires teachers to make more decisions, beyond the lesson planning stage, than they would with traditional learning strategies because what they plan to do during the lesson may differ from what occurs, since pupil empowerment means that the course of the lesson may change or be diverted. Brody and Nagel (2004) argued that teachers whose decision-making approach is consistent with the principles of reflective practice are more likely to apply these new methods. Furthermore, these teachers might notice that using cooperative learning strategies changes their role and, thus, makes them better observers of pupils and the learning process, which can facilitate better teaching (Brody and Nagel, 2004). Brody (1998) suggested that cooperative learning requires a new code of teaching behaviours, a new understanding of children, how children learn and are motivated to learn, and a broader educational goal. This educational goal overtly concentrates

on encouraging children to become caring, reasonable and responsible learners and, thus, socially successful people.

Evaluation and group processing

An important part in cooperative learning is played by reflection and feedback, which helps groups to develop and become more effective in their social interaction and construction of learning (Sharan, 1994).

Structuring debriefing sections to link group work to learning objectives is an important role of the teacher (SPRinG Project, 2015) it satisfies students' innate need to find out if their solution to a problem is correct, which is a necessary element in the motivation to learn (Beck and Chizhik, 2013). During the debriefing, the teacher will invite groups to share the strategies they have used and help the class to evaluate the relative effectiveness and efficiency of different strategies. The teacher may also present alternative strategies that were not used by any of the groups, but unlike a traditional 'lecture', this is not a transmission of solutions from the teacher to passive pupils, as pupils will be encouraged to relate the teacher's comments to their experiences in the group work, in order to complete the problem-solving process (Beck and Chizhik, 2013).

Training for cooperative learning

Training in cooperative learning for both teachers and pupils is critical for its successful application. This is because it is important for teachers and pupils to understand their roles in the process of cooperative learning to achieve the advantages of this learning strategy.

The preliminary factors of effective cooperative learning are skills that pupils and teachers should understand. The absence of any one of these preliminary factors reduces the

effectiveness of this learning method and negatively affects the results. Therefore, pupils' and teachers' preparation for cooperation is essential to improve the practice and achieve its objectives. Thus, there is a need to train teachers in how to apply cooperative learning and how to train pupils for group work before putting them into groups, because otherwise the benefits of cooperative learning will not be fully achieved. It is the teacher's responsibility to train the pupils to effectively work in groups, but the teachers themselves require training so that they fully understand their roles in cooperative learning lessons. Therefore, it is important that teachers understand their duty to organise and prepare the lessons, tasks, assessments and rewards; this is essential since their roles in cooperative learning differ from their roles in other learning approaches. Moreover, teachers must educate pupils by defining both their roles and pupils' roles, as well as the skills pupils need to use; thus, teacher training is pivotal for the effective implementation of cooperative learning. In this section, therefore, both these training needs are addressed. First, the need for pupil training in cooperative learning skills is addressed, since this is a responsibility of the teacher connected with Johnson and Johnson's (2008) framework, discussed in the previous section. Then, teachers' need for support and training in order to fulfil their responsibilities in the cooperative learning classroom will be highlighted.

The need to train pupils for group work

In this regard, Gillies argued:

> *This includes helping students understand that they will be expected to work together and contribute to the group goal, share ideas and resources, facilitate each other's learning ... often these behaviours need to be discussed in class before the students begin their group work so they have clear understanding of how they are expected to behave (2007, pp. 198, 199).*

The five preliminary factors of cooperation in groups emphasise the importance of those qualities and skills that are essential for effective cooperative learning; therefore, training pupils about group behavioural skills is a pivotal aspect of establishing the cooperative strategy. Slavin (1995) claimed that many educators have argued that pupils need to be trained in how to work effectively in groups before they begin cooperative learning. Gillies (2007) stressed that 'when children are not taught these skills, they are more likely to experience difficulties with building trusting relationships, communicating effectively with others, and resolving conflicts through constructive means. Moreover, Gillies and Ashman (2003) conducted a study of 192 grade 6 children in Australia entitled 'Teaching Collaborative Skills to Primary School Children in Classroom-Based Work Groups'. Pupils were separated into two groups. The first group was trained well in what group members should do in cooperative learning: how to discuss the topic, how to be effective and interact with each other in the group and other important requirements for this kind of learning. The second group received no such training and was only told to help each other. The groups were equally represented by gender and a stratified random assignment of participants was used so that both groups had high-, medium- and low-ability children to facilitate the comparison of effects on behavioural interactions and academic achievements. The study aimed to answer five research questions, one of which is particularly relevant to the current research. This fundamental question is: 'do children in the trained collaborative groups develop a deeper understanding of curriculum material than those in the untrained groups?' The findings of the study provided clear evidence that training in cooperative learning is vital in achieving the full potential of cooperative learning and education. Gillies and Ashman (2003, p. 98) found that:

The children in the trained condition were consistently more cooperative, responsive to the needs of their peers, and provided significantly more explanation to assist each other. The trained groups made their own group decisions and preferred to use each other as a resource rather than relying on help from teachers ... those in the trained groups demonstrating more involvement with the group, a higher level of motivation, and more group involvement in the learning task than their peers in the untrained group. The result of this study provides strong evidence that training children to collaborate facilitates group functioning and has a positive effect on student achievement.

Therefore, Gillies and Ashman concluded that pupils who were trained in effective ways to work cooperatively were more likely to support and assist each other by providing constructive criticism and useful feedback that would further their understanding and highlight the benefits of cooperation. Based on this research, it is evident that training pupils to work cooperatively greatly improves the advantages of applying cooperative learning.

Such training is critical for the success of cooperative learning when pupils are introduced to this method because without understanding their role they are less likely to benefit from the full array of advantages that cooperative learning can offer. In addition, Fullan (2001) argued that to successfully engage with pupils during education pupils need to feel connected to their teacher and classmates so that they are motivated to contribute. This means that teachers must organise entertaining and useful learning activities for the pupils to generate a sense of unity and community among them. Fullan (2001) surmised that the differences between pupils who are high achievers and those who are low achievers will increase if the teaching and learning process remains competitive, individualistic and focused on cognitive achievement. Communication skills and social development should be integrated into cognitive development and all learning strategies used with pupils because these skills are equally important and enable students to become motivationally engaged with other learners (Fullan,

2001). Therefore, an understanding of the importance of behaviour and communication highlights the need to train pupils to achieve cognitive, social and behaviour skills.

Cohen (1994b) suggested that pupils must be trained for cooperative learning activities so that they know how to, and are encouraged to, behave and communicate in groups and learner-centric lessons that are not directed entirely by the teacher. Moreover, the training programme should establish and clarify rules and explain cooperative learning approaches to pupils so that they are aware of the benefits of learning in this way.

Teachers' need for support and training

It is difficult to implement new teaching processes; it can be exceptionally demanding for teachers because it requires new skills, time, repeated practice, commitment, continual professional development, feedback, support and encouragement (Watson *et al.*, 1998). Training is important because, as Gillies and Boyle (2010) illustrated, the lack of understanding of teaching methods causes group work to fail in achieving potentially high results. Therefore, teachers must be trained pre-service and during service. Brody and Davidson (1998) drew attention to the importance of programmes of in-service training and professional development in updating teachers to equip them with new strategies to increase student achievement. Therefore, teachers who are new to cooperative learning will need professional development before attempting this approach in their classes. Hertz-Lazarowitz and Calderon (1994) presented a model for such training, demonstrating how training sessions, lectures, discussion and role-play activities can be used to teach strategies for effective cooperative classroom management. The implementation of classroom-management techniques for cooperative learning can be monitored through classroom observation (Hertz-Lazarowitz and Calderon, 1994). An important point made by both

Jolliffe (2015) and Sharan (2015) concerns the value of experiential learning. In other words, in training, teachers should not simply be told about CL, but should experience it themselves and be encouraged to reflect on how they can translate that experience into the context of their own classrooms.

As Fullan (2001) argued, teachers are the centre of change; thus, training programmes should deal with change and developments in the teaching profession to develop teachers' skills. Professional development is a crucial issue in teaching. Teachers should update their knowledge of educational changes and continuously refresh their understanding of the philosophies of child development.

It is also important for teachers to have a supportive, collaborative climate, within and, ideally, between schools, so that teachers can benefit from networking with colleagues. Jolliffe (2015), for example, asserts the value of co-teaching, supportive feedback and, in particular, the presence in schools of in –house 'experts' or facilitators who can advise and encourage less experienced colleagues and help them then to find solutions to difficulties and challenges.

Conclusion

Establishing and maintaining the necessary preliminary factors for effective implementation of cooperative learning, introduced in the previous chapter implies a departure from traditional teaching and learning roles. Learning is co-constructed through interaction among pupils, and between them and the teacher, rather than transmitted from a controlling, authoritative teacher to passive pupils. This places complex responsibilities on the teacher, to prepare the conditions under which such training can best take place. Decisions must be made on the structuring of learning groups, tasks, and reward systems. Pupils must be briefed

on the task they are required to achieve, and the kind of behaviour expected of them. While the groups are engaged on their tasks, the teacher will be supervising their interactions and progress, interviewing where necessary to guide and facilitate their social skills and knowledge- constructing strategies. Finally, the teacher should encourage and facilitate evaluation and group processing, helping pupils to reflect on the effectiveness of the strategies they have used and, perhaps, draw their attention to new and potentially fruitful alternatives.

As this chapter has shown, implementation of such a model requires, not only that teachers train pupils in the skills they will need for successful learning, but also that teachers themselves are supported and trained to adapt to their new role.

Chapters two and three, together, have provided an overview of cooperative learning principles and practices as described in international, predominately Western literature. Before turning to the empirical investigation of cooperative learning in Saudi Arabia, in Chapter Four I discuss the Saudi context, drawing attention to aspects of the culture and education system that may affect the implementation of cooperative learning in that setting.

Chapter Four

The Saudi Cultural and Educational Context: Implications for Cooperative Learning

Introduction

Following from the foregoing review of cooperative learning literature, I turn now to the context of this study, Saudi Arabia. The purpose of this chapter is to shed light on aspects of the socio-cultural context and education system in Saudi Arabia and assess their possible implications for implementation of cooperative learning. The discussion is in three main parts. The first concerns key socio-cultural influences in Saudi Arabia. Tracing the early history of the Kingdom, it identifies tribalism and Islam as the twin foundations of Saudi culture and shows how these combine to construct the dominant values and practices, notably in relation to collectivism and power distance. The second part considers the nature of the Saudi education system and recent trends of educational reform which provide the background to the recent interest in cooperative learning. The third part looks at the scale and nature of extant research on cooperative learning in Saudi Arabia. The chapter concludes with an evaluation of the potential impacts of the trends discussed for the implementation of cooperative learning in Saudi Arabia, and the implications for this study.

The Socio-Cultural Context

The culture in Saudi Arabia is based on two main elements, Islam and the tribe, which AlGathami (2009) considers the two dominant factors in the Arab culture. Historically, the tribe and the Islamic religion have had a powerful influence and both have deep roots in

Saudi culture since its establishment. Indeed, the two have been linked in Saudi history. In 1744, a religious leader named Mohammed bin Abdulwahab campaigned to re-establish what he considered to be the true Islam in the Arabian Peninsula, as a response to a lapse from the original practice. He made an agreement with the ruler of Najed, Prince Mohammad bin Saud, to support and protect each other.

The aim of the alliance was not only to cleanse the Arabian Peninsula of "deviant" practices but also to form a political and religious sovereignty that would unite the tribes of the Peninsula. This first 'Saudi state' lasted until 1818 and despite restoration of the monarchy from 1824-1891, the Peninsula was marked by instability and destructive tribal warfare for control of the region until the emergence of Abdul-Aziz Al-Saud (Alrasheed, 2010). Nevertheless the legacy of these early beginnings remained. Now, the term Wahhabism is used to describe the dominant religious philosophy in Saudi Arabia, which since unification of several regions by King Abdul-Aziz Al-Saud, in 1932, has been officially named the Kingdom of Saudi Arabia, reflecting the tribal name of its first ruler, thus assuring the influence of tribalism in the culture.

'Culture' is a set of attitudes, norms and values shared by members of a particular group and manifested in practices (Hofstede et al., 2010). A number of writers have emphasized the salience of culture for understanding thinking and behaviour, and Hofstede (1980) identified dimensions of culture that have frequently been used or cited in subsequent studies as ways of describing cultural traits. The legacy of tribalism and Islam in Saudi culture is particularly manifested in the dimensions of Collectivism and Power Distance.

Collectivism refers to the tendency for people to be integrated into cohesive groups that confer protection in exchange for loyalty. In-group affiliation and group harmony are priorities. Bjerke and Al-Meer (1993) characterized Saudi Arabia as a collectivist society that

places strong emphasis on social solidarity. Historically, collectivism was a way to cope with the hardships of nomadic desert life, and dangers of inter-tribal rivalry and warfare, but the deeply-rooted traditions of mutual concern and assistance embedded in Saudi society from its early history continue to influence the values and practices of modern society.

The tribal system was built on mutual support and cooperation in many aspects, such as giving money to the groom on his wedding day in a demonstration of the sense of togetherness. Cooperation is shown in community members helping each other and feeling a responsibility to support each other when needed. This habit of cooperative behaviour would support cooperative learning in the school because people enjoy working with others. Not only on special occasions or in emergencies, but in everyday life, too, collective living and sharing are still valued. Although with urbanization there has been a trend away from the extended family to the nuclear family, for example, the tradition of eating together from one large plate is still popular across the nation. Sharing the same food and eating from the same plate would involve discussion and some degree of agreement about the choice of the meal, or otherwise it would be decided by one person, most likely the mother or the father. Reaching agreement on what to have, has an element of cooperation, since it involves considering all members' views, whereas if that choice comes always from one person, it is contrary to cooperation values, whereby each member should participate in decisions. Sitting in a circle around one plate is like sharing a task in cooperative learning and the way of sitting in groups. It is a situation where cooperation, togetherness and group cohesion are manifested. This tradition is greatly respected and valued amongst the whole society. In larger gatherings, too, on occasions such as weddings or having guests or celebrating, the food is brought on several large plates, and people sit in groups of three, four or five to eat from one plate. Different tribes and social classes all observe this custom. This is just one

example of how a set of cooperative values exists in the culture, where people accept and value sharing life with others. Such values may enhance cooperative education practice in schools.

Whilst collectivism had its roots in the early tribal way of life, it is reinforced by Islam, which values social solidarity. Much of the worship within the Islamic religion is preferably practised in groups, for example, Hajj and Prayers as noted by an early Arab scholar ,Ibn Kather, writing in the third century of Muslim calendar (the ninth century of the Gregorian calendar) edited by Abdul-Rahman (2009). In addition, people who worship in groups are rewarded more than those who do so singly, according to the prophet Mohammad, who said praying with a group is rewarded more than praying alone. In the Quran (chapter 9, verse 122) people were asked to establish groups in which to learn, before returning to others to teach them. Ibn Kather (ed. Abdul-Rahman, 2009) explains that Allah (the Arabic word for God) directed Muslims in each tribe to send a group to the prophet Mohammad in Madinah (a city in Saudi Arabia near Mecca, where prophet Mohammad lived for most of his life) to learn the Quran and Sunna (the prophet's words and behaviour, which clarify and support the message of the Holy Quran) before returning to their tribes to pass on the teachings of Islam. Islam supports and encourages individuals to work in groups, as the above example illustrates. This shows that working in groups has a precedent in religion, which could facilitate its transfer to schools. It is essential to recognize that the Saudi attitude towards all aspects of life is based first on the Quran and Sunna. Behaviour that does not go against these sources will be acceptable, and behaviour that is explicitly supported by them will be followed with conviction. This argument should support implementation of cooperative learning with regard to the Islamic view of working in groups, such as the prophet's saying *" The hand of God is with togetherness or community"*.

Whilst tribalism and Islam both support collectivist values and behaviours which may be supportive of cooperative learning, another impact of these strong prevailing influences may be less helpful. This is the high power distance that characterizes Saudi society.

Power Distance is defined as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede et al., 2010:61). Bjerke and Al-Meer (1993) in a study within a Saudi University found a Power Distance score of 73, putting Saudi Arabia at the higher end of the spectrum, implying obedience to authority and an expectation that superiors will enjoy high status and privileges.

The roots of such values can easily be traced to tribal tradition. Each tribe has a leader called the Sheikh, who is respected and commands authority over the members of the tribe. The position of Sheikh is inherited through families. Traditionally, when the Sheikh spoke, others listened deferentially. Today, with the development of national systems of law, urbanization, and the move towards the nuclear family, the Sheikh's authority is not what it was formerly. Nevertheless, the deeply rooted custom of deference to a single authority figure is still reflected in education, where students have a passive role, remaining silent until they are asked to answer a question. This culture of one person's power and directive role is likely to have implications for cooperative learning, given that, as noted in Chapter Two, the preliminary factors for effective implementation of cooperative learning gives power to pupils to lead their learning process, which conflicts with teacher centralisation. Therefore, cooperation in schools may encounter resistance, given the unfamiliarity of the notion of subordinates (in this case, pupils) having the freedom to talk and discuss, not just when asked.

Similarly, the traditional Islamic way of gaining knowledge about religion and life was in a context where one man had knowledge, which he transmitted to followers. The same term,

Sheikh, is used to denote this scholar, as is used to describe the head of the tribe. This Sheikh would lead the prayers in the mosque, and give the Friday sermon, to which people of all ages would listen. Issues great and small, pertaining to religion or everyday life, were submitted to the Sheikh for his advice. Again, this tradition embedded in the culture a habit of deference to a central authority –figure, which has been reflected in the educational culture.

The Education System in Saudi Arabia

The Saudi education system is a young and developing system. Historically, the first formal educational system was established in the 1920s and in 1935, a "School of Scholarship" was opened to prepare students to study abroad in Arab countries. This is a historical sign of the value placed on education, reflected in the desire to benefit from the advantage of leading countries in education. Over the years, educational development has continued to be a priority.

From the outset, education in Saudi Arabia has always been characterized by two predominant features: the influence of Islam (Alhogail 2003; Motoally 2004; Al-Sonble et al. 2004; Al-Gathami 2009) and centralized government authority (Alagla 2001; Motoally 2004; Al-Sonble et al., 2004).

As noted by Cameron and Cowan (1983, p 755):

> *"Saudi Arabia is the heartland of Islam, the guardian of the holy places; and nowhere is the influence of religion felt more directly or explicitly. Theoretically, religion and the state are one, and the Saudi constitution is the Quran."*

In Saudi Arabia, the Islamic code is observed in all aspects of life, including the education system, and all government policy is formulated in the light of this code (Alyami, 2014). Part

one of the Education Policy contains no fewer than 18 articles related to proclaiming Islam and fostering Islamic beliefs, values and principles while Part two elaborates on how Islamic objectives are to be achieved in education (Ministry of Education, 1980). The pervasiveness of Islam in Saudi education is commonly highlighted (Aboalfaraj, 2004).

Teaching in schools focuses heavily on Islamic studies, which comprises four subjects: the Holy Quran, hadith (the traditions of the Prophet Mohammed), towhed (theology) and fiqh (Islamic jurisprudence) and is also conveyed in the teaching of other subjects, notably Arabic, which is the language of the Quran (Rugh, 2002). Thus, Arabic has special status as part of the national identity and Islamic identity. Arabic language subjects, which are the main focus of this study, have the second highest number of lessons after religious subjects. Together, Arabic language and religious studies constitute more than 60% of the lessons in primary schools (Rugh, 2002). The time devoted to Arabic language may support cooperative learning, which may sometimes need more time for pupils to construct knowledge, compared to having information transmitted directly by the teacher. In practice, however, the legacy of Islamic traditions of education has been a didactic, rather than a participative, constructivist, approach to teaching and learning.

Historically, learning Arabic was linked with the Quran. In the past, Quranic education took place in the mosques, where students would sit in groups call Quranic Memorisation Circles. Such groups still exist. However, in the past other lessons were included, such as Arabic, since to be able to recite the Quran, it was necessary first to master language skills. However, learning in this experience was essentially memorising, which is not consistent with cooperative learning principles. Students learned passages by heart and recited them to the Sheikh, whose role was to listen to their reciting and correct them. Similarly, in schools it is

75

common for teachers to give direction and correction and exercise control, while pupils just repeat memorised information.

Rugh (2002) identified rote memorization of basic texts as a feature of much of Saudi education, and traced this phenomenon to the early Kuttab schools, which focused on study and memorization of the Quran and other religious texts. Similarly, Alhaideri (2006) notes a prevalence of didactic teaching methods and heavy reliance on memorization. Discussing language teaching specifically, Elyas and Picard (2010) trace the Islamic roots of an almost ceremonial style of teaching still commonly practised, whereby the teacher delivers a formal lecture reading from a text, explains the material and allows questions to follow. The role of students is as passive recipients of knowledge, who learn from the teacher by listening attentively to him. Johnson (2009) similarly notes that the teacher is the ultimate authority on (secular) knowledge and, as such, the ultimate authority in the class. "Discussion" occurs within strict parameters, structured by the teacher through formal questions and answers. Given the power enjoyed by teachers in the classroom. Elyas and Picard (2009) suggest, it should come as no surprise that many are loath to relinquish it by adopting more student centred pedagogies.

In addition to Islam, education in Saudi Arabia is, as noted above, shaped by the centralization of control by the Ministry of Education. This has been a feature of the education system ever since 1938, when the Directorate of Education issued regulations by which it assumed control over all educational matters in the kingdom, except for the military academies (Rugh, 2002). In 1953 the Directorate was upgraded to a ministry. Today, government control over education is exercised by the Ministry of Education, which not only controls state schools but also supervises private schools, which are required to follow the government imposed curricula, although they may offer supplementary courses.

Alaisa (2009) criticizes the centralized curriculum, which is synonymous with the textbook provided by the Ministry. Teachers have to follow and teach only what is in this textbook. This kills creativity and may inhibit cooperative learning as well, since sticking to this book may make it impossible for teachers to prepare tasks in a manner consistent with cooperative learning. Furthermore, teachers' adherence to the textbook is monitored by Educational supervisors, formerly known as Educational inspectors. The supervisory role is to police education by visiting schools, attending classes and examining the teacher's preparation book to make sure the teacher has covered the textbook provided by the Ministry (Alhodithy, 2009). Teachers in this system are carriers or presenters of the knowledge in the approved curriculum or textbook. This inhibits creativity and leads to similarity in the way of delivering the lessons. This type of supervision may lead teachers to use teaching methods such as teacher talking to the whole class, which are considered to be safe, rather than developing new methods, in order to make sure that the supervisor will not criticize the lesson. Therefore, the change in terminology from inspector to supervisor may not reduce the pressure and the worry about being observed, since the process and the rules have not changed. In this study, two educational supervisors were interviewed and their understanding of cooperative learning practice will be discussed in later chapters. This may indicate to what extent they are able to develop teachers' skills in teaching methods or whether they just do the job of inspector. Restrictive practice in imposing the curriculum and controlling and monitoring teachers would negatively affect the prevalence of cooperative learning practice. Moreover, it prevents schools from adapting their provision to suit local conditions, such as the nature of the catchment area and resources available. Alzaidi (2008) comments on the lack of school autonomy as a source of dissatisfaction among teachers.

In recent years, concerns about inadequacies in the Saudi education system have been voiced both at government level and by academics, who have criticized levels of attainment and called for reforms in teacher preparation, school curricula and teaching methods (Alhamd et al., 2004; Alaisa 2009; Albahiri 2010; Algarfi 2010).

Alaisa (2009) criticizes the Saudi education system in his book, "Reforming Education in the Kingdom of Saudi Arabia", arguing that the methods in use are not sufficient to produce creative and leading members and do not keep pace with global trends in education development. He argues the Saudi education has many shortcomings and is only suitable for producing clerks, not future leaders, thinkers and creators. Alaisa criticizes an overloaded curriculum which, apart from a booklet here and there, remains fundamentally unchanged, and where success and failure depend upon how much information the student can remember. Thus, developing the practice in the school is a national desire which could support interest in developing teaching methods such as cooperative learning.

Additional pressure for reform comes from outside Saudi Arabia, from global trends and international organizations. The World Bank (1998), for example, has declared that in the future, the workforces in developing countries will need the ability to

> *"perform more non- routine tasks and more complex problem-solving, take more decisions…require less supervision, assume more responsibility and have better…reasoning and expository skills."*

There are indications of an awareness at government level that this applies to Saudi Arabia. A speech given by the Saudi Minister of Higher Education at a conference on higher education held in Marrakesh in 2002, cited by Rugh (2002) is an example. Another important indication of the desire and commitment to developing education is the huge assigned yearly budget which increases every year. Saudi Arabia's 2015 Fiscal Budget Report by Jadwa

Investment issued on 28th of December 2014, announced allocation to education of SR217

billions for the 2015 fiscal year (31 December 2014 to 30 December 2015). The report

announced:

> *Education and training was allocated SR217 billion, a moderate 3 percent increase on 2014's allocation. Around SR14 billion will be used to finance 164 new projects, including 'new' additions to existing projects whilst SR12 billion will be allocated to the refurbishment of several universities plus the construction of three new universities. Another SR400 million will be used for the refurbishment of general schools and sport centres. SR22 billion has been allocated for the over 207,000 Saudi students studying abroad and their families. The allocation also takes into account the government continued commitment on building and operating several technical and vocational colleges and institutions. (Jadwa Investment, 2015).*

1 billion Saudi Riyals= 266371890000.US Dollars (1 SR=0.27 $ / 176801597411.59 British

Pound Sterling (1 SR= 0.18 £).

Even before this, the Ministry of Education had begun to show interest in reform, launching

several education development projects, including a comprehensive evaluation of education

initiated in 1996. One of the objectives of the project was to evaluate teachers and teaching

skills, which were seen as among the major problems facing Saudi education.

The aims of the Ministry of Education are to develop, upgrade and improve the education

system and outcomes. Therefore, *"implementing educational and training programmes for*

teachers' college and others to improve teachers' skills and enrich their experience" is a key

element of its policies. Developing teachers' skills is a priority towards improving the system.

Among the skills which the government seeks to develop is teaching methods. However, it

is as yet unclear whether experience of cooperative learning is included in this programme

and whether Saudi teachers have learned from the successful international experience of

cooperative learning. At least, the concern by the authority shows hope that some work might

be done in developing teaching methods. Another policy which may be relevant to this study is "Raising the minimum educational requirements for primary-level teachers seeking admission to the Teachers' College to a bachelor's degree, to ensure that all teachers have attended university". This concern to raise the qualification of primary school teachers, from whom the sample of this study was selected, should have positive impacts on their skills. In short, education policy shows a desire to develop teachers' skills and qualification. This does not necessarily mean that cooperative learning was specifically addressed in this process, but plans and efforts to develop teachers' skills demonstrate a commitment to education and a willingness to consider change which could be facilitative of new initiatives such as cooperative learning.

Recognising the need also for development of educational curricula in line with economic and social development, the Ministry of Education initiated a further wide-scale review of education (Saudi Arabian Cultural Mission 2006). The committees charged with this review urged the Ministry of Education to revise its educational objectives on three principles: balanced, flexible curricula designed to meet student needs and the demands of the labour market; increasing positive attitudes towards learning and thinking, using technologies, and the use of different sources of information and emphasising Islam values, loyalty to country, moderation and social harmony (Ministry of Education, 2007).

Reflecting the Ministry of Education's concern for school reform, including the restructuring of teaching methods to improve students' school achievement and critical thinking skills (Alhogail, 2003; Alkanem et al., 2005; Alhaidari, 2006), in 2007 the King Abdulla Project was established for the development of public education, with a budget of more than 1.5 billion pounds. The project, which was intended to be completed in 2013, included four programmes:

1- A programme to develop the educational curriculum

2- A programme of developing teachers' skills

3- A programme to improve the learning environment

4- A programme of extracurricular activity (www.tatweer.edu.sa).

The project was designed to be implemented in phases, beginning with the establishment of 50 "Tatweer" (Development) schools across the kingdom. These schools, equipped with specially qualified leaders and teachers, and the latest educational technology, were intended to make a shift from traditional to so called "smart learning" in which "learners are looking for information rather than [receiving] it" (Alyami, 2014: 1428). However, this project was considered too costly to be extended to all Saudi state schools, so in the second phase, from 2011, schools were urged to take responsibility for their own development, within the limits of their own resources, rather than through Ministry- provided technology (Alyami, 2014).

One of the methods attracting attention in the Ministry of Education drive to improve students' learning is cooperative learning (Alhaidari, 2006). An emphasis on cooperative learning is among the declared features of new curricula in Science, Mathematics and English language, announced as part of an education development project intended to equip Saudi students for the information age (Alsabti, 2012). A further development potentially conducive to implementation of cooperative learning in Saudi schools is a recent requirement by the Ministry of Higher Education that first year university students undergo a one-year preparation programme, not only for developing their English language, computer and mathematics skills but also to promote their confidence and self-reliance, as well as strengthen their personal skills and raise the level of creative thinking (Alaisa, 2009). These

skills could be obtained through cooperative learning practice (Alaisa, 2009) which suggests the potential value of introducing cooperative learning during general education.

Despite these apparently facilitating trends and the surrounding rhetoric, in practice, however, *"change in Saudi Arabia always comes slowly"* (Rugh, 2002:53) and Alaisa (2009) reports a lack of real change.

Alaisa (2009) blames the dominant intellectual and conservative religious trends which influence the country for resistance to change, which had impeded development of education. Because Saudi Arabia is home to the two Holy mosques, Makkah and Al Madinah, where the message of Islam first appeared, the Saudi Arabian government and country are under pressure to strike a balance between Muslim countries' attitudes and ways of facing global issues (Al-Sadan, 2000). This Islamic commitment has influenced the culture in Saudi Arabia, as religious people aim to preserve Islam from globalization and modernisation, which might be considered as threats to the practice of Islam. Saudi Arabia was for many years closed to the outside world (Bowen 2008; Alaisa 2009) out of fear of globalization and loss of Muslim identity. This in part may explain the lack of partnership with other developing countries, especially in cooperative learning, to introduce and adapt this practice to Saudi schools.

Research on Cooperative Learning in Saudi Arabia

Research on cooperative learning in Saudi Arabia is limited. Algarfi (2010) and Aldeep (2004) drew attention to the lack of research in cooperative learning in Saudi Arabia and the absence of any organisation, institutions or specialist websites for cooperative learning. Aldeep (2004) claims that most studies in cooperative learning in the Arab world have been conducted in Egypt. Alhaidari (2006) investigated the effectiveness of using cooperative

learning in Arabic reading comprehension, vocabulary and fluency in what the title of his thesis describes as a "Saudi Arabian School". However, the study was actually conducted in a bilingual, dual-curriculum school in Washington DC, not in Saudi Arabia itself. Alhodithy (2009) investigated the potential for implementing cooperative learning in Saudi Arabia and found teachers had very little knowledge of the concept.

The lack of research on cooperative learning may suggest that there is a lack of cooperative practice and little attention has been paid to developing methodology. The lack of research would slow the development of this approach and the value and feasibility of implementing cooperative learning approaches should be well addressed and the prerequisite factors understood as steps in this development.

Conclusion

The culture and the history in Saudi Arabia have some facilitating and inhibiting elements for cooperative education. These elements originated from the tribe and Islam, which have been closely linked since the establishment of the country. Some aspects of tribal culture support cooperative learning practice, such as the sense of belonging to one group with the same aim, the success of the tribe. Mutual responsibility and help are valuable factors that could be harnessed in cooperative learning. Islam also has positive elements for cooperation since the Quran asked people to help each other and warned against lack of cohesion. The Sunnah is rich in calls for unity, helping others and respect for the views of other members of society, which might be expected to support cooperative learning.

Conversely, both of these foundations of Saudi culture have aspects which are less conducive to the implementation of cooperative learning, notably the encouragement of high Power Distance. Both invest authority in one person, the Sheikh. This could inhibit the principles of

cooperative learning as it encourages an emphasis on listening to and following the person with superior status or knowledge. In class, the tendency of teachers to perform the Sheikh's role conduces towards centralisation.

The education movement in Saudi Arabia is not lacking the root of cooperation in the culture but may need effort to adapt and increase cooperative learning practice in schools, especially as the traditional way of learning focuses on memorization, recitation and correction by the teacher. In addition, there is a lack of research on cooperative learning, which is a disadvantage for developing and spreading this methodology, although recent educational reform projects may support implementing cooperative learning. A question arises, however, regarding the role of educational supervisors, and whether their inspectoral role clashes with their developmental function.

The possibility of developing cooperative learning practice in Saudi schools is interesting and complex, since there exist both constraining and facilitating elements in the culture and education system. An important first step, therefore, is to investigate teachers' understanding of cooperative learning and the prevalence of the preliminary factors for effective implementation of cooperative learning, which are the main focus of this research. The next three chapters explain and discuss the philosophical stance of this research and choice of methods for investigating the prevalence of the preliminary factors for effective implementation of cooperative learning in Saudi primary schools.

Chapter Five
Methodology: Part One: The Philosophical Foundation

Introduction

This chapter makes a transition from the literature review in Chapters Two and Three, to the empirical aspect of the research. Specifically, it addresses the philosophical issues underpinning the research, and their implications for the research design. The discussion is presented in five main sections. First, the importance of considering philosophical issues, because of their implications for research design, implementation and evaluation, is discussed. The next two sections address, in turn, issues of ontology or views about the nature of reality and being, and epistemology-views about how "reality" can be apprehended and what constitutes valid knowledge. This leads on to a discussion of the extent to which specific ontological and epistemological stances can or should be aligned with quantitative or qualitative approaches to research, with 'mixed methods' offered as a pragmatic or technical third position. Finally, a detailed discussion is presented of the implications of the foregoing issues for the present research, in which my ontological and epistemological assumptions are made explicit and linked to the research logic, design, and choice of methods.

The Importance of Philosophical Issues

Before discussion of the research methods it is important to give some consideration to philosophical issues because, as Bryman (2012, p19) comments,

> ...the practice of social research does not exist in a bubble, hermetically sealed off from the social science and the various intellectual allegiances that their practitioners hold"

He goes on to argue that research methods are not neutral tools, but are linked to visions of the nature of the social world and how it can be understood.

Researchers denote contrasting assumptions about such issues by the term "paradigm", a paradigm being a set of basic beliefs or first principles that define the nature of the world, our place in it, and possible relationships between ourselves and the world (Guba & Lincoln, 1994). Methodology writers differ in the number of paradigms they identify, and in the terminology used to denote them. However, what they have in common is a broad distinction between two approaches to which they attach various labels. Guba and Lincoln (1989), in their early work, distinguished between what they called the "conventional" or "positivistic" paradigm and the "alternative" or "naturalistic" paradigm which they later termed "constructivist". Salomon (1991) used the terms "analytic" and "systemic", while Wadsworth (1998) draws a broad distinction between what she calls "old paradigm" and "new paradigm".

In this basic, broad, two-paradigm typology, the detached, objective, deductive approach associated with the natural sciences, and usually termed "conventional", "positivist" or "analytic" is contrasted with more subjective, value-laden, inductive approaches. Thus, while proponents of the traditional positivist view see knowledge as objective, representative information that can be obtained by natural methods, leading to generalisations and predictions, anti-positivists reject the dualist separation between subject and object. Guba and Lincoln (1994) expand the number of paradigms or paradigm groups to four, by including in addition to positivism and constructivism, post-positivism and a group which they call "critical theory et al.". Post-positivism takes a similar objectivist stance to positivism, and has a similar aim of prediction, generalisation and control, but accepts that reality may be only imperfectly apprehendable, and makes more use of situational information and natural settings. The critical paradigms focus on the impact on human experience of social, political,

cultural, economic, ethnic and gender factors and seek emancipation of research participants through a value-mediated, dialogic process. The various approaches within the non-positivist research traditions (which will be distinguished further in later sub-sections) draw on Husserl's (1931) concept of "lifeworld", which expresses a belief that "person and world are inextricably related through lived experience of the world" (Sandberg, 2005, p43). From this perspective, the human world is an experienced world.

Understanding and making explicit the philosophical assumptions that underlie a given piece of research is of fundamental importance for both researcher and reader, as these assumptions carry implications for the way in which the study is designed and implemented, and for the criteria by which it can legitimately be evaluated. Gray and Malins (2004) argue that such understanding helps to clarify issues of design, such as the kind of evidence to be collected, from where, and how it will be interpreted, and assists the researcher in recognising which design(s) will or will not be appropriate and effective in addressing a particular objective. Similarly Jolliffe (2010) discusses how philosophical stances form the basis of the study, and highlights the distinction between the objectivist stance that places the researcher as a detached observer pursuing the discovery of general laws, and stances that see objectivity as illusory when applied to the social world, criticise positivism for being reductionist and mechanistic, and pursue instead a wider and deeper understanding of what constitutes human experience.

Ponterotto (2005) also asserts the importance of establishing the research philosophy, noting that it has implications for the role of values, the rhetorical structure of the research, and methodology. With regard to values, for example, whereas positivist and post-positivist approaches assume that the research process can and should be value-free, that is, uninfluenced by the beliefs and expectations of the researcher, in contrast, constructivists see

the researcher's values as an inescapable part of the research process, that should be acknowledged, described and reflected upon, while criticalists actively seek and expect their value biases to influence the research process and outcomes- specifically to "empower" and "liberate" participants.

Rhetorical structure is also influenced by the researcher's philosophical stance. This is more than a question of writing style, but is concerned with whose "voice" is reflected in the research. In the positivist and post-positivist positions, the "voice" is that of a detached and emotionally neutral researcher (Ponterotto, 2005), the "disinterested scientist" (Guba and Lincoln, 1994), whereas constructivism presents the researcher as a "passionate participant" (Guba and Lincoln, 1994, p 115), actively facilitating the emergence of the multiple voices of participants, and in the critical paradigm, the researcher assumes the role of transformative intellectual, using his/her knowledge and socio-political awareness to challenge ignorance and misapprehension (Guba and Lincoln, 1994).

With regard to methodology, this naturally flows from the researcher's position on the nature of social reality and how it can be investigated. Positivists and post-positivists tend to favour methods and procedures as similar as possible to those of "hard science", where variables are carefully controlled or manipulated (Ponterotto, 2005). Constructivists and criticalists, by contrast tend to adapt more naturalistic inquiry methods involving intense interaction between researchers and participants.

A further implication of different philosophical approaches to research concerns the manner in which the quality of a piece of research can be evaluated and the reader can come to a determination as to the level of confidence that can be placed in its conclusions. As Healy and Perry (2000) argue, the quality of a study in each paradigm should be judged on that

paradigm's own terms. Sandberg (2005) in this respect argues that research concluded under a constructivist paradigm, for example, cannot logically be evaluated by criteria such as internal and external validity, and reliability (in the sense of stability), derived from an objectivist perspective. The criterion of reliability, for example, loses its relevance in a study that seeks to capture perceptions and meanings shaped by individual experience, which may naturally change over time; or in a study that (as in critical theory) actively seeks to bring about change. In order to evaluate and decide to trust a piece of research, therefore, readers must clearly understand its philosophical basis and, in turn, what the researcher is or is not aiming to do.

For all these reasons, philosophical discussion provides the foundation for the whole 'research enterprise'. With this in mind, the next section will address the most fundamental question facing researchers, from which all others flow, that of ontology.

Ontology

In simple terms, ontology is concerned with the nature of reality and being (Ponterotto, 2005). Blaikie (1993, p6) defines ontology as the study of

> *"claims and assumptions made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other."*

More simply, Mack (2010) defines it as what we mean when we say something exists. It addresses the questions: is a social phenomenon external, imposing itself on the individual from outside, or is it a product of the individual consciousness? Does it have the properties of an object, existing independently of and uninfluenced by the observer, or is it the product of human cognition? (Burrell and Morgan, 1979). These questions relate to the realist-

nominalist debate in philosophy. The former position views social objects as having independent existence, while the latter contends that objects of thought are only words that have no intrinsic meaning independent of the observer who perceives, experiences and interprets them.

Writers commonly refer to these two positions as, respectively, objectivism and constructionism (Bryman, 2012). Objectivism assumes the existence of external facts that are beyond our influence and that research will therefore address questions of "how things really are" or how things work, while aesthetic and moral considerations, for example, are irrelevant (Guba and Lincoln, 1994). Constructionism, by contrast, is concerned with the active role of individuals in constructing social reality (Bryman, 2012). Bryman (2012) illustrates the difference in the two perspectives with reference to the example of culture. From an objectivist perspective, culture would be seen as a set of shared values and customs into which people are socialised so that they can become fully functioning members of society. It has an almost tangible reality of its own and imposes itself on individuals from outside, constraining their actions and thoughts. From the alternative perspective of constructionism, however, culture would be seen not as a fixed, immutable reality acting on individuals, but as an emergent reality that is continuously constructed and reconstructed by human actions.

The commonly identified research paradigms each adopt different ontological positions and can be seen as representing various points on a continuum between the extremes of realism/objectivism and nominalism/ constructionism. The positivist paradigm, for example, is based on an ontological position of naive realism; it assumes that there exists a single reality that is apprehendable, definable and measurable. It assumes that the truth is "out there, driven by immutable laws" (Guba, 1990, p19) and that reality can be captured by our senses

and predicted (Mack, 2010). Consequently, positivists strive for "objectivity, measurability, predictability, patterning, the construction of laws and ascription of causality" (Cohen et al, 2007, p28). Post-positivism similarly presumes the existence of a single reality, but acknowledges that it may not be possible to apprehend and measure it completely (Ponterotto, 2005). Karl Popper (1959), one of the pioneers of post-positivism, asserted that there are no absolute truths. Consequently, post-positivist researchers consider that theories can never obtain the real truth, but only get close to it.

Critical theory adopts a position of historical realism, meaning that it considers reality to be shaped by ethnic, gender, cultural, social and political values that are themselves a product of history. From this perspective, social reality is defined by people in society and socially constructed through media, institutions and society; schools, for example can be seen as playing a part in shaping and perpetuating particular constructions of the social world (Guba and Lincoln, 1989; Mack, 2010). Without the empowering effect of insight, historically-situated structures are assumed to be as constraining as if they were real in an objective sense (Guba and Lincoln, 1994). Therefore critical paradigms focus on understanding how realities are mediated by socially-constructed power relations.

Finally, constructionism adopts a stance of ontological relativism. It sees reality as subjective and influenced by social context, that is, the individual experience, the social environment, and interactions among social actors (Ponterotto, 2005). Consequently it accepts the possibility of multiple apprehendable realities which may conflict. Moreover, it envisages the possibility that individuals' constructions of social phenomena may change as they become more informed (Guba and Lincoln, 1994).

Writers such as Grix (2004) argue that ontology is the logical starting point for understanding social research, leading in turn to questions of epistemology, which I address next.

Epistemology

Epistemology is the branch of philosophy concerned with "what we can know about reality and how we can know it" (Willis, 2007, p10) or as Mack (2010) simply expresses it, what we mean when we say we know something. In Burrell and Morgan's (1979) terms, it addresses the basis of knowledge – its nature, forms, how it is acquired and how it is communicated, and as Bryman (2012) points out, it is therefore concerned with what is or should be regarded as acceptable knowledge. Can or should the social world be studied on the same principles and by the same perspectives as in the natural sciences? Is knowledge hard, objective and tangible, or is it personal, subjective and unique (Burrell and Morgan, 1979)? In addressing these questions, epistemology is concerned with the nature of the relationship between the researcher and what can be known, which as Guba and Lincoln (1994) point out, depends on one's ontological position; if one assumes a "real" reality, it requires an observer to be detached in order to discover it, while if "reality" is seen as subjective and individually interpreted/constructed, then the researcher will enter into the social setting as an interpreting/constructing social actor (Guba and Lincoln, 1994). For this reason, Crotty (1998, p31) observed that epistemology is *"the theory of knowledge embedded in the theoretical perspective and thereby in the methodology."*

Just as different research paradigms adopt different ontological positions, therefore, they also have differing perspectives on epistemology. Positivism, for example, sees knowledge as resting in a set of firm, unquestionable, undisputable truths (Grix, 2010). It assumes dualism between the researcher and the object of the investigation (Guba and Lincoln, 1994), and

92

therefore favours standardised, structured methods such as observation and experiment, that facilitate replication, in order to test theory and develop laws (Ponterotto 2005; Bryman 2012). No influence is expected between researcher and researched (Ponterotto, 2005). Post-positivism takes a somewhat modified position; it accepts the possibility, for instance, of some influence between researcher and researched. Nevertheless, it still pursues an ideal objectivity and independence between research subject and researcher (Ponterotto, 2005).

Critical theory, with its transactional, subjectivist epistemology, sees knowledge as highly value-mediated (Guba and Licoln, 1994). What counts as worthwhile knowledge is determined by the social and positional power of the advocates of that knowledge (Cohen et al, 2007, p27). It is produced by power, and is an expression of power, rather than of truth (Mack, 2010). From this perspective, schools play an explicit part in the construction of knowledge based on power in society; in other words, curricula, pedagogy and the school environment reflect the priorities and interests of those with power, and perpetuate the status quo (Gauge, 1989). Hence, critical theory sees research as a dialectical relationship between the researcher and researched, aimed not only at gaining knowledge, but also at raising participants' consciousness of social constraints and, in turn, transformation (Ponterotto, 2005).

From the constructionist / interpretive point of view, knowledge arises from particular situations and is gained by personal experience (Mack, 2010). Human beings are seen as social actors, who interpret their everyday social roles, and those of others, in accordance with their own set of meanings (Saunders et al, 2009). Consequently, humans and their institutions require a different research logic from the natural sciences, one rooted in hermeneutics and phenomenology, which are concerned with the interpretation of human action based on empathic understanding (Bryman, 2012). Since knowledge is created and

sustained by social processes (Young and Collin, 2007) the key to research from this perspective is dynamic interaction between the researcher and participants (Guba and Licoln, 1994; Ponterotto, 2005), in order to capture and describe lived experience. The role of the social researcher is to "understand, explain and demystify social reality through the eyes of different participants" (Cohen et al, 2007, p19). As Bryman (2012) points out, the process of making sense of the world from participants' perspective entails a threefold set of interpretations: participants interpret their experience; the researcher interprets these interpretations; the researcher then further sets the interpretations formed in the context of theory.

It is evident from the foregoing discussion that the ontological and epistemological assumptions adopted by a researcher will have implications for the choice of the research strategies and methods. In particular, writers have often aligned these assumptions with the selection of quantitative or qualitative methods. Some have gone so far as to see qualitative and quantitative as distinct and incompatible paradigms, while others such as Guba and Lincoln (1994) and Bryman (2012) see this as an oversimplification. In view of this controversy, it would be worth discussing the qualitative-quantitative debate and its relationship to ontological and epistemological issues, before considering the implications for the present research.

Qualitative and Quantitative Approaches

In discussing research strategies and methods, it is common for writers to draw a distinction between qualitative and quantitative approaches to research. The distinction is, however,

ambiguous and controversial; while some authors regard it as fundamental, others argue that it is no longer useful, or even false (Layder, 1993).

For many years, arguments about the relative merits and drawbacks of qualitative and quantitative methods were based on a tendency to align each set of strategies with a specific ontology and epistemology, implying therefore that the two are fundamentally different, and even incompatible (Pring, 2000). Drawing on Burell and Morgan (1979), Cohen et al (2007) argue that the ontological and epistemological assumptions discussed previously demand different research methods. Objectivist or positivist researchers, it is claimed, will adopt quantitative methods to analyse relationships and regularities between selected factors, while subjectivist or interpretivist researchers will adopt qualitative methods in order to uncover and understand the subjective experiences of individuals.

Taking a similar perspective, writers such as Gall et al. (2003), Miles and Huberman (1994), Mustafa (2011), Phiri (2012), Pring (2000) and Weirsma (2000) align quantitative methods with positivist philosophy and qualitative with the interpretive/ constructivist or critical paradigms. Quantitative research, for example, is said to rely on the separation of the research object and the researcher (Miles and Huberman, 1994); to be concerned with replicability and generalisability (Weirsma, 2000), and to follow a deductive logic form theory to hypothesis testing (Gall et al, 2003). It uses experimental and non-experimental (descriptive, comparative, or correlational) designs (McMillan, 2000) using methods such as social surveys, official statistics and structured observation to collect data (Silverman, 2000). Qualitative research, in contrast, is said to be concerned with how people's subjective experiences are manifested in their words and behaviours (Gall et al. , 2003) , reflecting multiple constructed realities (Pring, 2000) , following an inductive logic and allowing , at best, a "fuzzy" generalisation (Phiri, 2012). It is conducted via designs such as ethnography,

grounded theory, case study and phenomenology (Creswell, 2009), and data are collected

by methods such as interviews, focus groups, observation and document analysis (Silverman,

2000).

The dichotomous view of the relationship between research strategies or methods and their

underlying philosophical assumptions is, however, an over-simplification. Bryman (2012),

acknowledges a "tendency" for quantitative approaches to be aligned with a positivist

ontology, natural science epistemology and deductive logic, and for qualitative approaches

to be aligned with a constructivist ontology, interpretive epistemology and inductive logic.

However, he goes on to note that these distinctions are problematic and that in reality the

picture is more complex. For example, citing a study by Adler and Adler (1985) he illustrates

that qualitative research can be used to test theory; moreover, despite the interpretivist

epistemology of the study, he notes, its findings have objectivist overtones. Similarly,

Bryman (2012) cites Westergaard et al. (1989) as an example of a quantitative study with

interpretivist overtones. In other words, the alignment of qualitative and quantitative

strategies with distinct ontological and epistemological orientations is not hard and fast;

studies that have broad characteristics of one position or strategy may also contain

characteristics of the other.

Other writers similarly offer rationales for a blurring of the distinction between qualitative

and quantitative strategies. Hammersley (1992), for example, points out that research

conducted under different philosophical assumptions can use both numbers and words, and

both strategies are concerned with both behaviour and meaning. He also challenges

qualitative researchers' questioning of the ecological validity of quantitative research,

arguing that valid data can be collected in "stripped", controlled settings (Denzin and Lincoln,

2005) and that qualitative research is not necessarily "natural" and "authentic", as the

presence of observers may change the setting (Hammersley, 1992). Nor are qualitative and quantitative research necessarily distinct in terms of research logic, as according to Scott and Usher (1996), all kinds of research can involve both inductive and deductive elements.

One approach to dealing with these complexities is to by-pass ontological and epistemological questions, adopting instead a pragmatist position. Tashakkorie and Teddie (1998) describe pragmatism as not committed to any specific philosophy, but guided by the personal value system of the researcher. Creswell (2007, p11) takes a similar view, arguing that

> *Truth is what works at the time. It is not based in a duality between reality independent of the mind or within the mind....pragmatist researchers look to what and how to research based on the intended consequences... where they want to go with it....pragmatists have believed in an external world independent of the mind as well as that lodged in the mind*

The pragmatist stance encourages the combination of qualitative and quantitative methods in research, on the basis that this will bring out the best of both (qualitative and quantitative) paradigms, facilitate multi-level analysis of complex phenomena and increase validity by addressing multiple audiences (Dörnyei, 2007).

Other writers do not go so far as to adopt a pragmatist disregard for ontological and epistemological issues, yet still reject too rigid an alignment between research philosophies and methods. Guba and Lincoln (1994) although they see the researcher's ontological and epistemological position as crucial, suggest that both qualitative and quantitative methods may be used appropriately with any research paradigm, Bryman (2012) refers to what he calls a technical perspective that recognises different ontological and epistemological assumptions, but does not see these as fixed, and focuses more on the strengths of specific

techniques. From this perspective, strategies may be combined, resulting in mixed methods designs. Indeed, drawing on a content analysis of articles reporting mixed methods research, he identifies 16 ways or purposes of combining qualitative and quantitative methods. They include triangulation in a bid to increase validity; off-setting weaknesses of one method by strengths of another; comprehensiveness; accounting for both structure (quantitative) and process (qualitative); using one method to help explain results generated by the other; facilitating sampling; generating and testing theories within a single project; reflecting a diversity of views, and simply to address different research questions.

Thus, whether one adheres to a particular research paradigm or adopts a more pragmatic approach, it appears that the choice of methods can and should be made with a degree of flexibility and sensitivity to the needs of the research. Philosophical distinctions are useful, but need to be problematized. With the foregoing discussion in mind, I now turn to the explanation and justification of my ontological and epistemological position in this research, the research logic, and my rationale for the decision to employ a mixed-methods design.

The Position of the Present Research

Before discussing the philosophical stance, research logic and methodological choices involved in this study, it may be useful to recapitulate the research questions as a reminder of what the research was intended to achieve. The main research question was: What are the necessary preliminary factors in the development of cooperative learning, and what is their prevalence in Saudi Arabia? This was addressed via six sub-questions, as follows:

- What is cooperative learning?

- What does international research say about the preliminary factors necessary in the development of cooperative learning?

- How does the Saudi context affect the development of cooperative learning?

- What is the prevalence of the necessary preliminary factors in the Saudi context?

- What are the challenges to the development of these factors?

- What facilitatory factors exist to aid their development?

In discussing how these questions were addressed in this research, it would be appropriate to begin with ontology since, as indicated previously, ontological issues are the logical foundation of social research (Grix, 2004). The present research was conducted from a standpoint of what Ponterotto (2005) calls ontological relativism, that is, a nominalist, constructionist view of the social world that envisages the possibility of multiple realities shaped by individual experience and social context. As noted in the literature review, cooperative learning is not an objectively defined concept; interpretations of it differ from one scholar to another. Similarly, it was assumed in this study that teachers' understanding, perceptions, experiences and practices would differ from teacher to teacher, due to an array of individual and environmental factors- the teacher's training, teaching-related values, class size, societal expectations of schools and teachers, and many others. In particular, I assumed that factors might exist in the Saudi cultural and social context, which might lead to cooperative learning being conceptualised and / or practised differently from what is advocated or reported in international literature. The aim of the study, therefore, was not to uncover and measure a single, objective reality, but to explore multiple interpretations of the phenomenon of cooperative learning as constructed in the Saudi social context.

This ontological position clearly has implications for the research epistemology. Since I view conceptualizations and practices of cooperative learning as subjective "realities" shaped by

teachers' values and the social context, it followed that knowledge and understanding could best be obtained from the teachers operating in the context of interest. I viewed teachers as social actors, who interpret their teaching roles, including their attitudes and behaviour towards cooperative learning, in accordance with their own set of meanings (Saunders et al, 2009). Gaining insight into how individual teachers construct their understanding of cooperative learning and translate it into behaviour required me to enter the social setting of schools as an interpreting / constructing social actor (Guba and Lincoln, 1994), to understand the phenomenon of cooperative learning through teachers' own eyes, by means of interactions with them. In other words, I adopted an interpretivist / constructivist epistemological position, which required a hermeneutic process of inquiry.

As indicated previously, the subjectivist ontology and interpretive / constructivist epistemology are commonly associated with an inductive logic that proceeds from data collection to generation of theory. However, like the qualitative – quantitative debate, to which I will return later, this is an over-simplification. Indeed, consistent with Scott and Usher's (1996) assertions about the relationship between research logics and methodologies, this research combined inductive and deductive elements. There already exists an established body of literature on cooperative learning and the preliminary factors needed for its development, which offered a starting point for identifying issues to explore in the research, and this theory guided the data collection and analysis; for example, it was referred to as a framework when developing data collection instruments (these will be discussed in a later chapter). The research proceeded from the assumption, based on the literature, that there are certain preliminary factors that are necessary for effective cooperative learning, and a hypothesis that cooperative learning is limited in Saudi Arabia due to the insufficient availability or implementation of these factors. Thus far, the logic is deductive.

However, from this starting point, the research aimed to explore the applicability of international thinking on cooperative learning in a novel context, Saudi Arabia, where the phenomenon is new and under-researched, particularly with regard to necessary preliminary factors. Thus, by deep exploration of teachers' beliefs, experience and behaviours, the aim was to generate new theory for Saudi Arabia, via inductive reasoning.

In other words, the aims of the study were both confirmatory (regarding the theory that there are preliminary factors necessary to the development of cooperative learning) and exploratory (regarding understandings and practices in Saudi Arabia, about which little is known). To achieve these aims, the research proceeded from general inference (cooperative learning theory as it appears in the literature) to a conceptual framework and via deductive inference to testing the assumption formulated regarding necessary preliminary factors. Then based on the findings, inductive inferences were made, leading to a new general inference (theory applicable to the Saudi context).

Now, I turn to the question of how these issues discussed above impacted on my choices of research design and methodology, with regard to the qualitative / quantitative debate. As noted previously, subjectivist ontology and interpretive/ constructivist epistemology are commonly aligned with a qualitative methodology, as qualitative approaches tend to be concerned with how subjective experiences are manifested in behaviours (Guba and Lincoln , 2004) and to encourage interaction between researcher and participants in order to interpret and co-construct understandings. These features of a qualitative approach are suited to the exploratory aims outlined above. At the same time, however, I was concerned that a purely qualitative strategy would not meet all the purposes and features of the study. The second research question, concerning necessary preliminary factors, for example, carried some objectivist overtones. Obtaining a variety of views from a range of teachers, both

implementers and non-implementers of cooperative learning, required a large sample, which could be difficult to manage in a qualitative design due to time constraints and the overwhelming volume of data likely to be generated. I was also concerned that over-reliance on my subjective interpretation and those of a small number of teachers would not provide a sufficiently broad picture to enable useful lessons to be drawn for the development of cooperative learning in Saudi Arabia.

With these considerations in mind, and encouraged by the views of writers such as Guba and Lincoln (1994) and Bryman (2012) on a more flexible relationship between research philosophies and methodologies, I adopted a fixed, convergent , sequential mixed methods design, combining quantitative and qualitative elements. The design was "fixed" in the sense that the use of mixed methods was planned from the outset, rather than emerging as the research progressed (Creswell and Clark, 2011). "Convergent" means that the study involved collection of *"different but complementary data on the same topic"* (Morse, 1991, p122). The design was sequential in that the two strategies were used in two phases, first quantitative, then qualitative, the second being dependent on the outcomes from the first. The purpose of the first phase was to obtain a general overview of how the target population (Arabic language teachers in Saudi primary schools) understand cooperative learning, drawing on a large sample, and to find out how many claimed to implement cooperative learning and would be willing to participate in the second, qualitative phase. Thus, the second phase involved a smaller sample, those identified from phase one as implementers. Its aim was to obtain rich, deep , information about how these teachers felt about and experienced teaching using a cooperative learning methodology, and how they implemented it in practice, that is, how their subjective meanings and experiences were manifested in their teaching behaviour.

The decision to use mixed methods was not a solely pragmatic one that by-passed philosophical considerations. Rather, my position corresponded more to Bryman's (2012) "technical" position, recognising the importance of ontological and epistemological issues, but taking a less rigid view of their alignment with methodologies. In terms of the various rationales identified by Bryman (2012) for adopting mixed methods designs, the reasons applicable to this study, and the advantages gained were as follows:

- Increasing validity through triangulation

- Comprehensiveness; the quantitative phase made possible the inclusion of all Arabic language teachers in primary schools in the selected region.

- Accounting for both structure and process; the quantitative phase revealed what proportion of the sample implemented cooperative learning and where these implementers were located, while the qualitative phase explored how these identified implementers actually practised cooperative learning.

- Facilitating sampling: the quantitative survey of Arabic language teachers facilitated the identification of those who (as implementers) were eligible to participate in the qualitative phase and were willing to do so.

- Generating and testing theories within a single project; as explained earlier in this section, the research tested the initial assumptions about the prevalence of cooperative learning in Saudi Arabia and availability of necessary preliminary factors, and also led to generation of new theory about factors constraining and facilitating development cooperative learning in the Saudi context.

In addition to the rationales cited by Bryman, it can also be argued that the choice of a mixed methods design provided a balance between generalisability (due to the census approach in

103

the quantitative phase), and ecological validity (due to the exploration of actual teaching practices in the authentic school setting in the qualitative phase).

The actual choice of methods- a questionnaire survey in phase 1, and interviews together with classroom observation in phase 2, will be explained in the next chapter.

Summary

This chapter has explored the impact of philosophical considerations on the research design. It began by highlighting the significance of such issues for methodological designs. A basic two-paradigm typology, subsequently expanded to four paradigms, was introduced. It was noted that the different assumptions of these paradigms have implications for the kind of evidence to be collected, the role of values in the research, the "voice" represented, the choice of methods, and the criteria by which research can legitimately be evaluated.

Moving to ontology, which was argued to be the logical starting point for understanding social research, a distinction was drawn between the objectivist position, associated with realist philosophy, and the subjective constructionist or nominalist position. The different ontological stances of various paradigms were shown to have implications for epistemology. While an objectivist, realist ontology requires objective observation by a neutral researcher, for example, a constructionist ontology will lead the researcher, as an interpreting social actor, to interact with the research setting and participants in a process of dialogic, hermeneutic exploration.

Contrasting philosophical positions were shown to be commonly aligned with different research approaches: objectivist, positivist positions being aligned with quantitative methods and subjectivist, interpretive positions with qualitative methods. However, the overly simplistic nature of such a dichotomy was pointed out. An alternative, mixed methods

approach may be adopted, either from a pragmatic position that by-passes philosophical questions, or a technical perspective that acknowledges and addresses these, but adapts a more flexible view of their relationship with the research methods. Several advantages of mixed methods designs were suggested.

This research was conducted from a standpoint of ontological relativism; teachers were expected to construct a variety of understandings, perceptions and practices in relation to cooperative learning, based on personal and contextual factors. Hence, understanding was sought through engagement with teachers as social actors, and interpretation of their experiences as they constructed them. It was both confirmatory and exploratory, using deductive inference to test the theory that certain preliminary factors are needed for effective cooperative learning, and inductive inference to explore how far internationally reported understandings and practices apply in the new context of Saudi Arabia. To achieve these purposes, a mixed method design was chosen, with a quantitative preliminary phase to obtain a general view of Arabic language teachers in Saudi primary schools and identify cooperative learning implementers; followed by a qualitative investigation of implementers' attitudes and practices. Such a design was expected to provide a balance between generalisability and ecological validity, account for structure and process, and enable both theory testing and theory generation. Part two of the methodology discussion will explain and justify the methods and techniques selected in order to implement this design and answer the research questions.

Chapter Six

Methodology Part Two: Choice of Strategies and Methods

Introduction

The discussion in Part 1 set out the philosophical underpinnings of this study, leading to the adoption of a fixed, convergent, sequential mixed method design. I indicated that the research was conducted in two phases. The first was a quantitative phase designed to provide an overview of Arabic language teachers' understanding and practice of cooperative learning in the primary schools of a selected region of Saudi Arabia, and to identify teachers who purported to be implementers of cooperative learning. This paved the way for the second phase, a qualitative phase that sought deeper understanding and interpretation of these implementers' actual teaching practices and also the views of the two educational supervisors of Arabic language teachers in the region who could strengthen the findings with insights derived from their experience of education in this region. In this part of the discussion I explain in detail the specific strategies and methods selected for each phase, and the rationale underlying their use. The discussion is structured in three main sections. The first explains the survey strategy selected for phase one, including the choice and development of a questionnaire as the data collection instrument. The second and third deal, respectively, with the two strategies used in phase two: classroom observations using a purpose- designed protocol, and semi-structured interviews with teachers and educational supervisors.

Phase one: the Questionnaire Survey

As indicated above, the purpose of conducting a survey in phase one was to assess teachers'
understanding of cooperative learning and of the necessary factors for cooperative learning,
to gauge the prevalence of cooperative learning practice in the region, and to identify self-
proclaimed implementers of cooperative learning who could be recruited for phase two.

The target audience of the survey was defined as all teachers of Arabic language in boys'
primary schools in the al-Aurthiah Ashamaliah region of Saudi Arabia. It was not feasible to
conduct the research across the whole country, as travelling throughout its vast area of about
830,000 square miles would be beyond the time and financial resources available. The al-
Aurthiah Ashamaliah region, with 29 boys' primary schools and 79/Arabic language
teachers, offered a large sample; moreover it is familiar to me, which facilitated access to
schools in the area. I decided to adopt a census approach, surveying all 79 Arabic language
teachers. The reasons for this were two-fold: first, since no information was available on
cooperative learning implementers, there was no other way of ascertaining the prevalence of
cooperative learning in the region, or identifying implementers for the next phase of the
study. Second, while the second phase of the study would focus on explaining actual practice
of cooperative learning, it was also important to have information from non-implementers,
as their responses might provide insights into constraints- whether practical, attitudinal or
knowledge-related, that may inhibit teachers from implementing cooperative learning.

The survey was designed in the form of a self-completion questionnaire. A questionnaire is
*"a list of questions with a range of answers… [In] a format that enables standardized,
relatively structured data to be collected from a (usually) large number of cases"* (Matthews
and Ross, 2010. p. 201). Advantages are that the questions and (in the case of closed

questions) the response options are determined by the researcher, and the data are ready coded for analysis. The corollary to these advantages, however, is the limited access to participants' in-depth experience and feelings and the limited opportunity for respondents to answer questions in their own way. Moreover, there is a risk of bias arising from low response rates (ibid). The first two of these limitations, however, were compensated by the deeper, qualitative exploration of teachers' beliefs, practices and experiences in phase two -one of the advantages of mixed methods studies proposed by Bryman (2012). The third limitation would be mitigated by care in the questionnaire design and distribution procedures.   I felt, therefore, that the advantages outweighed the limitations for the purpose of this study. Other factors were that a short research instrument, using closed questions, would be likely to yield a high response rate. The potential bias of researcher influence would also be eliminated, since I would be absent while they were being completed. The choice of the self-completion questionnaires was also influenced by considerations of cost effectiveness to reach a larger sample than other methods, as it is not necessary to arrange travel and meetings.

Questionnaire development

The process of developing, planning and constructing the questionnaire began with revising the research aims and questions. Verma and Mallick (1999) have noted that the first step in constructing a questionnaire is revising the questions and the purpose of the study. The next step was to review the literature to highlight the main concepts to be covered. A draft questionnaire was then produced based on the main points of the literature review which were relevant to answering the research questions. For example, the meaning of cooperative learning was gleaned from the literature and reflected in a set of statements. Similarly, the preliminary factors for cooperative learning were summarised and translated into a set of items. The survey contained three parts. The first part was concerned with the understanding

of the concept of cooperative learning. The second part addressed the experience of using cooperative learning. The third part elicited personal information.

All questions were in closed formats. The use of closed questions has many advantages. They are easy to answer for participants, who only have to tick or circle answers in this survey. They enhance comparability between respondents' answers, since coding is easy and the same for all who have returned the questionnaires. The availability of response options clarifies the meaning of questions so that respondents can understand what the researcher is asking with more clarity than with the use of open questions. Care was taken to develop questions that addressed my research questions and to avoid questions that would yield irrelevant data. Ambiguous terms were avoided by using clear ranking options, such as: How frequent is the use of cooperative learning in teaching Arabic language subjects in Saudi Primary schools?

 Very common ( )   Above average ( )   Average ( )

 Below average ( )   Not used at all ( )

Also, long questions were avoided, to reduce the risk of participants skimming and omitting questions. Double-barrelled questions, i.e. items asking about two things in one question, were also avoided. Leading questions were also avoided. For example, in asking about use of cooperative learning, two question were posed, as follows:

Do you use cooperative learning in your teaching of Arabic language subjects?

Yes (   )   No (   )

Followed by:

If yes, how often do you use cooperative learning in your teaching?

Always (   )   Often (   )   Sometimes (   )

Rarely (   )   Very rarely (   )

This was considered preferable to asking both aspects of these questions in one question or asking leading questions, such as 'How often do you use cooperative learning in your teaching?', without asking first whether the respondent used cooperative learning or not.

The teachers' self-completion questionnaires consisted of sixteen questions. The first page was a letter explaining the aim of the research and asking for the informed consent of the participant. According to Cohen et al. (2007), the purpose of informed consent is to indicate the aim of the questionnaire, convey its importance to the respondents, assure them of confidentiality, and encourage their replies. The participants were asked to respond to all three sections of the questionnaire. The letter also explained how the questionnaire would be answered by ticking boxes to select from the options provided. It also gave brief details about the study but indicated that if participants wanted to know more about the study there was a page at the end of the questionnaire. This action was taken to increase the likelihood of questionnaires being returned, since a long introduction may give an impression that the questionnaire is long and boring so that teachers may be deterred from responding. Providing details at the end of the questionnaire was also vital to give teachers who wanted to know more the right to do so. Also my contact details were given, in case participants had any concerns or queries regarding the research, which was intended to increase the confidence and trust between the research parties.

Following the introductory letter, the questionnaire proceeded as follows:

First Section: *Understanding the Concept of Cooperative Learning*

This section measures teachers' understanding of the concept of cooperative learning and the elements that makes cooperative learning work. It consisted of three questions. The first contained eleven statements, some true and some false, proposing characteristics of cooperative learning. Participants were asked,

"Which of the following do you think are included in the cooperative learning concept?" and to tick in the box (Yes, No, Do not Know) that reflected their opinions. An example of a true statement was: Cooperative learning gives each pupil a specific role to accomplish within the group task.

An example of a false statement was: All you need for cooperative learning to take place is to have the pupils sit in groups.

The reason for including both true and false items was to ascertain the validity and reliability of answers.

The second question in this section was:

When cooperative learning is going well, which of the following do you think should happen? Please tick in the box that reflects your opinion.

There were ten statements and, again, the technique of using a mixture of true and false statements was used to measure respondents' understanding and increase the validity. Sample items were:

 Everyone participates;

One or two members dominate the discussion

Again, there were three response options: 'Yes', 'No' or 'Do not Know'.

The third question in this section asked teachers to rank their own understanding of cooperative learning on a 5-point scale, as follows:

How would you rank your understanding of the cooperative learning concept?

Excellent ( )   Above average ( )   Average ( )

Below average ( )   Extremely poor ( )

Eliciting teachers' self-judgement in this way would complement the statistical data, providing a fresh perspective on the actual understanding shown in responses to the previous items.

Second Section: *Experience of cooperative learning*

This section aimed to find out teachers' experience of practising cooperative learning, by eliciting information about the prevalence of cooperative learning practice and training. This section consisted of ten questions. The first question was:

Have you received training in cooperative learning?

Responses to this questions could be analysed in relation to other questions to determine whether training had any effect on the prevalence and quality of cooperative learning practice among teachers.

The second question was:

If yes, what was the duration of the course?

1 to 5 days ( )   6 to 10 days (   )   11+ (   )

This was asked because the duration of training courses could affect teachers' understanding and, hence, implementation of this practice. The next question was:

Who led the course?

This was to find out more about the nature of training providers, which would help to illuminate the quality of cooperative learning practice in that region. Teachers were also asked to rank the quality of the course, which would provide further details about the quality of cooperative learning in general. Those respondents who indicated that they had not attended cooperative learning course were asked:

Do you know if any courses are provided on cooperative learning?

Yes, No, Don't Know

This could help in drawing a conclusion when discussing the prevalence of cooperative learning as to whether there is a problem of willingness of attending courses or shortage of courses, for example. Then two questions were asked in which participants had to rank the prevalence of cooperative learning in general and the quality:

How frequent is the use of cooperative learning in teaching Arabic language subjects in Saudi primary schools?

 Very common ( )   Above average ( )   Average ( )

Below average ( )   Not used at all ( )

How would you rank the quality of cooperative learning practice in teaching Arabic language subjects in Saudi primary schools?

Excellent ( )   Above average ( )   Average ( )

Below average ( )   Extremely poor ( )

These two questions were intended to contribute towards answering the main research question directly and enable more opportunity for generalising, since the survey was distributed to all boys' primary schools' Arabic language teachers. This allowed them to reflect their own experience of and familiarity with the education practice in the region, and also explain their practice of cooperative learning as well. Then they were asked:

Do you use cooperative learning in your teaching of the Arabic Language?

This question was asked to determine the prevalence of implementation of cooperative learning and also to establish a potential sample for interviewing and observing, in phase two. Respondents were asked if they used cooperative learning or not: this would give numeric data about the percentage of teachers who claimed to be implementing cooperative learning. Those who answered yes were then asked to specify their frequency of using it, with options of:

Always ( )   Often ( )   Sometimes ( )

Rarely ( )   Very rarely ( )

The last question in this section asked for the consent of participants who were implementing cooperative learning to be interviewed and observed in phase two. The question read:

Would you kindly volunteer to be interviewed and observed for the purpose of the research?

Additionally, teachers who agreed to participate in the second phase were asked to supply the name of their school and their own name.

Third Section: *Personal information*

This section consisted of three questions to establish the age, experience and qualifications of the target population and to enable a determination to be made as to whether these variables were associated with their implementation of cooperative learning.

The questionnaire ended with further details about the study for those who wanted to know more about it.

Translation and Piloting

Following preparation of the initial draft in English of the questionnaire, the questionnaire then had to be translated into Arabic, since the setting of the study was Saudi Arabia. Maxwell (1996) suggests several types of translation: back translation, multiple-forward translation, translation review by bilingual judges and statistical review. The back-translation technique was used to translate the questionnaire because, according to Brislin (1970), the back-translation procedure is effective in cross-cultural translations, and most PhD research conducted by Arabic researchers has applied this technique (e.g., Al-Harbi, 2007; Al-Motrab, 2010). Brislin (1970) describes the process of back-translation as follows: (a) translate the original transcript into the target language; (b) grammatically check the target transcript; (c) translate the target transcript back into the original language and check it against the original; and finally (d) pre-test before the actual application. The procedures start with selecting appropriate characteristics for translating, which, according to Maxwell (1996), requires a high level of knowledge of English and the target language (Arabic), cultural experience of the target population and strong skills in questionnaire development. Therefore, four bilingual individuals with expertise in Arabic-English translation and experience of translating research instruments were recruited. The first expert, who specialises in Arabic-

English translation, was given the assignment of reviewing the researcher's translation of the questionnaire from English into Arabic. The result was then given to another judge to check the grammar and review the validity of the questionnaire translation. The process of back translation into the original language was carried out by the third and fourth people, to check this against the original. The result of the process of translation made sense and there was comparability of meaning between the English and Arabic versions.

The final phase included conducting pre-pilot and pilot tests, to check the understandability of the instrument and ensure that would achieve what it was intended to achieve.

Pre-pilot and piloting

Pilot testing of the questionnaires was conducted. Pilot tests need to be conducted on a small sample similar to the main sample before the formal study is administered. According to Cohen et al. (2007), pilot tests are important for checking the clarity of questionnaire items, checking for leading questions, obtaining feedback about the validity of the questionnaire, and checking how long the questionnaire takes to complete. The questionnaire was piloted in two steps, designated pre-pilot and pilot stages.

The pre-pilot study was done in Hull with two teachers in a Saudi school held at the weekends to teach Arabic to children of Saudis temporarily resident in the city. The two teachers reported no difficulties in reading and answering the survey. Then, the actual pilot study was held in Saudi Arabia, with eight primary school Arabic language teachers in a region close to that of the main empirical study. Those teachers were approached directly with help from educational supervisors in that region to arrange the processes of distributing and returning the questionnaire. They were asked to give their feedback on the survey and also encouraged to contact me on the mobile number provided. The pilot study was intended to verify the

questionnaire's usability, validity and reliability, identify and eliminate any vague expressions, develop an idea of how long it would take to complete the questionnaire, identify items and technical issues that may be misinterpreted, obtain comments on the suitability of the questions, and determine whether there were problems with the research design (Cohen et al., 2007). Participants were given the chance to comment on the research instrument and how it should be developed. Six out of the eight teachers approached returned their questionnaires.

The following is a list of the major changes made in the design of the questionnaire as a result of feedback from the pilot study.

- The section on personal information, which had originally been placed at the beginning of the questionnaire, was moved to the end. This change was made because of Saudi culture and related research issues, as starting with information about the participants' age, experience and qualifications may affect the way they answer the questionnaire. Some individuals had suggested that an earlier experience with a previous study had put them under pressure to demonstrate knowledge and expertise in a certain area, even when they did not know much about it, because they were comparing themselves with others. I understood this feeling as I am familiar with the competitiveness and challenge within Saudi society, so I rearranged the questionnaire to start with the questions about cooperative learning and end with the questions about personal information, to reduce the apparent importance attached to who the participants were and what qualifications they held, so they could answer the questions on cooperative learning without feeling intimidated.

- Another change in the layout was moving the offer of further details about the study from the cover to the end of the survey. This left a short cover letter and consent form in the

beginning. This was suggested by participants in the pilot study because they thought that too long a cover letter may cause the participants to ignore the whole survey, since most teachers would prefer to go directly to the questions, while those who wanted more information could find the details at the end of the survey. In other words, the layout was modified according to the culture of research in Saudi Arabia, based on the pilot respondents' experience of how teachers would be likely to perceive the instrument.

- A further modification concerned the follow up to the filter question:

  - Have you received any training on cooperative learning?

Yes (   )   No (   )

Originally this was followed by only one follow-up item, beginning 'If yes…' However, for those participants who answered no, I added a question:

  - If you answered question 4 with no, do you know if any courses are provided on cooperative learning?

Yes ( )   No   (   )   Don't Know (   )

This would help to clarify whether any non-attenders had gone without training due to lack of willingness to attend or lack of opportunity.

The result of these changes was to produce a research instrument that was more appropriate to the purpose and context of this study; more likely to achieve the objectives of phase one and in turn would provide a more useful foundation for the deep exploration to be conducted in phase two, to which I now turn.

Phase Two: Observation and Interviews

Observation

Whilst the first phase of the research was concerned to obtain a general overview of primary school Arabic language teachers' understanding of cooperative learning and to identify implementers, the second phase was intended to provide rich and detailed insights into implementers' actual practices and the conditions in which they worked. One way to access such information would be simply to ask the participating teachers to describe their practices and indeed, as indicated in the next section, I did collect some such information. However, relying on teacher reports alone would be problematic, for a number of reasons. Their accounts may be affected by limited understanding of cooperative learning. ; they may try to give "theoretically correct" answers that do not reflect their practices; and they could not provide direct access to pupils' roles, behaviours and responses. I decided, therefore, that in order to obtain clearer and more authentic insights into how cooperative learning is implemented in practice, the most appropriate strategy would be to observe directly a number of lessons in which teachers planned to employ a cooperative learning approach and to witness at first hand the constraints and facilitating factors that appeared to be influential on their practices. I also decided to record the observed lessons on video, both to facilitate analysis and to enable observation outcomes to be shared with the teachers.

The video focus on one group would bring a degree of reality, from which much could be learned to support valid and reliable findings. Teacher and observer could scan it together after the lesson to discuss why things happened that way or what the teacher thought about it. The video provides a more complete and accurate picture of the status of cooperative learning in the region.

Plowright (2011) uses observation as a generic term to encompass the collection of empirical data via *"any or all of the senses" (p64)*, although it is commonly associated with collection by sight, i.e. watching. It is characterized by a relatively low level of mediation, i.e. the researcher is close to and directly observes the cases or data sources (Plowright, 2011). It involves *"watching social phenomena in the real world and recording events as they happen" (Matthews and Ross, 2010, p255)*.

Advantages of observation are that it takes place in the real world, can provide a detailed, rounded picture of an event or phenomenon, and is claimed to provide highly reliable, valid data. There are, however, difficulties in deciding what to observe, and the process can be affected by the subjectivity of researcher effects such as the "Hawthorne effect", identified in early research by Elton Mayo (1933), who noticed that participants behaved differently when they were aware of being observed.

The balance of advantages and limitations varies according to the type of observation used; a variety of positions have been identified, depending on what Junker (1960, as cited by Plowright, 2011) refers to as the degree of detachment or involvement experienced by the researcher. Typologies differ in complexity and nuance. Matthews and Ross (2010) make a basic distinction between what they term "participant" and "simple" observation. They define simple observation as a siltation where the researcher is not part of the process under observation, but is an objective outsider. They define participant observation, in contrast, as a process by which the researcher obtains intimate knowledge of the people whose behaviour they are observing. I prefer the more nuanced four-fold typology offered by Plowright (2011), which distinguishes among pure observer, observer- as- participant, participant as observer, and pure participant.

In terms of Plowright's (2011) classification, I chose the observer-as-participant model. In this model, the research is typically carried out in a naturalistic setting (in this case, a school classroom), and the participants are aware that they are being observed. However, the researcher remains relatively detached, with the researcher role predominating over that of participant.

An advantage of this role is that the risk of reactivity (untypical behaviour of participants caused their awareness of being observed, Bryman, 2008) is less than in participant-as-observer or full participant roles. Moreover, the researcher, being an 'outsider' in the setting, will not be influenced by participants' past histories, and will be under less pressure to depart from the researcher role.

On the other hand, reactivity is not entirely eliminated. Moreover, the researcher's 'outsider' status will require more time and effort in familiarization with the setting and negotiating access to participants (Plowright, 2011). The latter problem, however, was less applicable to this research, since contextual knowledge and access to participants were secured via the survey conducted in phase one of the research.

Having decided to conduct classroom observations in an observer-as-participant role, I then had to decide on the degree of structure to be applied in the observation. Some social scientists advocate an open, unstructured approach in which the researcher records *"everything, even the colour of the carpets"* (Okely, *1994, p7)*, because at the time of the observation, the researcher cannot know what may prove to be important. In this research, however, I was interested to observe specific practices and conditions, which theory suggested were characteristics of or necessary for cooperative learning. I therefore chose to adopt a more structured approach, and to this end I designed an observation protocol to allow me to record the incidence of specific behaviours of interest. This protocol consisted of three

sections. The first section was concerned with some general information about the lesson, class size, and group specifics such as group name, seating arrangement etc. Information was also sought about the preparation for and introduction of the lesson, such as whether task preparation assigned each member a role in the group. The second section of the protocol was about measuring the frequencies of cooperative learning elements during the lesson, such as "plan task together", "set goals together", "use group roles", "encourage each other", "use 'I feel' statements," etc. The final part of the observation protocol was a reflective commentary in which I would highlight significant points to be discussed with the teacher later, when interviewing and watching the video recording together.

The observation sheet was developed from the literature review focusing on the five elements of cooperative learning found in the literature and considered necessary for the successful implementation of cooperative learning. These elements are as follows: positive interdependence, individual and group accountability, group processing, interpersonal and small group skills, and promotive interaction. Each element has its own individual characteristics.

Positive interdependence occurs when everyone participates, everyone stays with the group on the task, pupils work as a team, pupils work with each other to achieve the same goal or group goal, and pupils use the same sources and facilities to achieve the group goal. Individual and group accountability means that pupils plan together to achieve their goals and work as a team. Promotive interaction means pupils interact in ways that facilitate achievement of the goal, for example by encouraging each other. Group processing means that pupils ensure that the task is completed in the end and reach agreement together and, more importantly, review the behaviours that should or should not be used to enhance the

effectiveness of the group work. Interpersonal and small group skills means that pupils take turns fluidly, use a moderate tone of voice when they talk to each other (rather than whispering), and do not put each other down. Each of these five essential elements was divided into measurable actions and behaviours which form each factor. I adapted and developed statements to guide me as to which "characteristic aligns with which element" (developed and adapted from Kern et al., 2007, p. 5). These statements are shown in Table 6-1 below. The observation protocol, consisting of the preliminary (pre-lesson) context form the observation tally sheet, the post-lesson reflection and the Group in action can be found in the appendix.

Table 6-1: Examples of the elements to be observed

Group in action

No		Frequency	Notes
1	Plan task together		
2	Set goals together		
3	Everyone participates		
4	Use group roles		
5	Teacher intervenes when needed		
6	Everyone stays with group on task		
7	Active listening		
8	Use a moderate tone of voice		
9	Encourage each other		
10	Show appreciation		
11	Explain and say why		
12	Give and ask for help from each other		

I also developed observation report forms for each lesson. These would be completed after watching the video several times, then passed to the teachers who would be allowed to edit, reject or explain anything regarding the report before it was analysed qualitatively. This kind of report was intended to give both myself and the teacher the ability and flexibility to benefit from the observation by providing additional qualitative data.

Semi-Structured Interviews

As a complement to the broad snapshot of cooperative learning knowledge and practice obtained via the questionnaire in phase one, and the observational data on teachers' practices, I also wanted to obtain rich insights into implementers' interpretations of their knowledge and practices. In addition, I wanted to gain access to the knowledge, experience and opinions of educational supervisors, who play a combined inspectoral and advisory role in the Saudi education system. These two supervisors make regular visits to schools to observe teachers, and have a key role in promoting or discouraging various teaching theories and techniques, and recommending training. Their views would offer another perspective on teachers' practices and might help to illuminate the constraints and supporting factors influencing them. Semi-structured interviews were chosen as the most appropriate strategy for these purposes.

Before I proceed further to explain the rationale for using interviews, and the relevant preparations, it is worth noting that interview is a method of eliciting information, feelings and responses from a participant in direct communication, using questions and interactive dialogue (Matthews and Ross, 2010). Hammersley and Atkinson (1995) argue that the value of interviews lies in *"the expressive power of language... to present descriptions, explanations and evaluation of almost infinite variety ..." (p126).*

The qualitative interview has two types: unstructured interviews and semi-structured interviews. Bryman defines semi-structured interview, the type selected for this study as:

> *"a context in which the interviewer has a series of questions that are in the general form of an interview schedule but is able to vary the sequence of questions. The questions are frequently somewhat more general in their frame of reference from that typically found in a structured interview schedule. Also, the interviewer has usually*

> *some latitude to ask further questions in response to what are seen as significant replies". (2012, p.212)*

May (1997) similarly notes the potential for the researcher to probe beyond the immediate responses.

Similarly, Matthews and Ross (2010) note that semi-structured interviews follow a common set of topics, but these may be introduced in different ways or in varying order, according to the needs of each of individual participant. They go on to point out that this type of interview gives participants the freedom to answer questions in their own words and their own way- in contrast to structured interviews (Kvale, 1996), where responses are typically constrained within a set of options Bell and Cowie (1999) and Robson (2002) among others, also comment on this characteristic of flexibility.

According to Matthews and Ross (2010), semi-structured interviews are useful in exploratory research, to explain why people experience or understand a phenomenon in a particular way. Both these purposes corresponded to my aims in the study; I wanted to find out what teachers and educational supervisors know about cooperative learning, and I sought to explain their understandings and experiences with reference to the contextual factors constraining or encouraging knowledge and implementation of cooperative learning techniques in Saudi primary schools.

In semi-structured interviews, the researcher is the primary research instrument, because the researcher's development of questions and responsiveness to the interviewee are facilitators that enable participants to tell their stories. This is particularly useful when the subject matter of the research is complex or not well understood, as in the case of cooperative learning (Matthews and Ross, 2010).

With all their advantages, semi-structured interviews are, nevertheless, not without their limitations. They can be time-consuming and expensive to conduct, the quality of data depends on the quality of interaction and skills of the interviewer, and there is a risk of bias in the framing of questions and interpretation of responses (Kumar, 1999). According to Cohen et al. (2007) the value of interviews depends on participants' level of comfort or discomfort with the topic, truthfulness and so on. There may be impacts arising from the relative ages, gender and ethnicity of interviewer and interviewees, and they can yield a large volume of 'raw' data that is difficult to analyse (Matthews and Ross, 2010). In this study, however, the disadvantages of time, cost and data volume were reduced by the small number of interviews conducted: two with educational supervisors and seven with teachers. Potential impacts of demographic and social factors were moderated by the fact that I was the same gender and ethnicity as the participants, and familiar with Saudi culture. Other possible sources of bias were addressed by care in the development and piloting of the interview schedule. The interview questions are shown in Appendix 2.

Schedule development

King (1994) suggests that interview questions can be developed on the basis of literature, preliminary investigations and the researchers' prior experience. All these sources were used in this study. Some questions were adapted from Gillies and Boyle's (2010) study entitled "Teachers' reflections on cooperative learning: issues of implementation" and from Antil et al.'s (1998) study entitled *"Cooperative learning: prevalence, conceptualizations, and the relation between research and practice"*. Other questions were developed specifically for this study, based on a close and extensive reading of the cooperative learning literature.

Three forms of semi-structured interviews were designed for teachers. The first one was a pre-lesson interview, where the main focus was to find out about the lesson to be observed,

for example, Why did you choose cooperative learning? What are the aims of your lesson? How are you going to achieve them? The pre lesson interview was short, and was intended to look at teacher's lesson preparation, knowledge of cooperative learning and how to transfer it into practice, difficulty and aid etc. The second semi structured interview was a post lesson interview, to sum up the lesson observed and give me the opportunity to ask questions about teachers' real action of cooperative learning. Questions included: How successful was the lesson? Why? Have you achieved your aims? Why or how? These interviews would give important qualitative data as they were linked directly with practice. The third and the main semi- structured interview was designed to find out in-depth details about teachers' understanding of cooperative learning and its practice. This interview was intended to complete the circle of questionnaire, observation and pre and post lesson interviews, by providing rich data about cooperative learning's status from the point of view of the teachers who were trying to implement it. While the questions in the questionnaire addressed these issues purely by statements about teachers' understanding of cooperative learning, answered by ticking options, the interviews enabled me to ask those teachers in the region who should have the best knowledge of cooperative learning some open-ended questions about their understanding of cooperative learning; their implementation of cooperative learning; their task preparation; the skills students require to work successfully in groups; students' reflections on their group processes and success in doing the tasks, the support teachers had in developing their experience of cooperative learning; and the difficulties of applying cooperative learning in Saudi schools.

The supervisors' semi-structured interview schedule was similar, with some modification to suit their duties and experience. For example, whereas teachers were asked how they prepared lessons and what they considered when preparing a task, supervisors were asked,

how should teachers prepare a lesson? And what should teachers consider when preparing the task?

As a final note in this section, it is worth mentioning that consideration was given to interviewing, in addition, a university lecturer. However, other than myself, there were only two other specialists in Arabic language teaching methodology at the region's university; one was studying abroad, and the other passed away shortly before the fieldwork began, so no specialist was available. After much thought, I concluded that, since university teachers are involved in teacher preparation but do not work with teachers in schools, the inclusion of a lecturer would in any case add little to the main focus of this study, which was teachers' current knowledge and practice.

Translation and Piloting of Semi-structured interviews and Observation

These processes could not be separated as they were tested as a package. Both interview schedules and the observation protocol were first formulated in English and scrutinised by supervisors. The back-translation technique was used to translate the schedules for the semi-structured interviews and the observation protocol in the same way as had been done before and explained above in relation to the questionnaire. Then, a pre-pilot study was conducted with two teachers in the Saudi School in Hull, who were asked to comment on the clarity of the questions and the observation protocol. The pilot test was conducted in Saudi Arabia with two teachers who were not part of the main study, who had participated in the pilot study during questionnaire development for phase one and agreed to become participants in phase two . For ethical reasons, the participants were informed of the purpose of the pilot test through a participant information sheet, and informed consent to participate was signed before starting the interview and observation session. The participants were audio-recorded digitally and their lessons were video recorded. The interviews were then transcribed to check

the quality of the device used for recording. The use of digital and video recording allowed the sessions to be listened to and watched, respectively, which is vital due to the limitation of human memory. This gave me the chance to re-examine what the participants said and did and how they said it or did it. This technique allowed detailed evaluation and analysis, which was intended to increase the validity of the results and reduce bias. The use of digital recorder and video recording also facilitated listening to and watching the interview and observation, because this could be done on laptops, computers and mobile phones also.

The interviews with the teachers were conducted face to face and recorded on a digital recorder in a quiet room at their respective schools. The two interviews in the pilot study lasted 27 and 34 minutes. Notes were taken during the interview sessions. The respondents were asked at the end of the interview for comments and criticisms of the questions and about any ambiguity in the questions. The reflections of the pilot interviewees helped to improve the questions and structure the interviews for the main study more logically. The feedback also gave me an opportunity to practise semi-structured interview techniques. The observations were conducted in the classrooms. The feedback from this piloting indicated that it would be preferable not to use the microphone which had been placed on the table in the middle of the group, since it was clear that it was affecting pupils' feeling of freedom within the group and hence, their learning. Also, it would be preferable to focus the camera on only one group and decide with the teacher prior to the lesson which group it would be, since attempting to watch the whole class made it impossible to follow what was going on inside groups. Nevertheless, the teacher could still have general notes about the whole class at the same time as I was watching the selected group. This was the major change in the observation protocol.

Regarding the interviews, the participants in the pilot study did not suggest that the questions should be amended, although they noted that for the main study interviews, it should be ensured that they were conducted in a relaxed environment, because it was noted during the pilot test that some students interrupted the interviewee and interviewer during the interview session. For the educational supervisors' semi structured interview, since it was very similar to the teachers', I decided that piloting with teachers would be enough. All notes from the pre-pilot and pilot phases were taken into account and greatly added to the confidence in the quality of the semi-structured interviews during the main study.

Summary

This chapter has provided the rationale for the choice of data collection methods and the development, piloting and refinement of the relevant instruments. For the first, quantitative, phase of the study, a questionnaire was developed, drawing on the international CL literature, in order to gain insight into teachers' use and perceptions of CL and their understanding of basic CL concepts and principles, as well as any training they may have had. For the second, predominately qualitative phase, an observation schedule was developed to be used in schools when observing lessons conducted by self-proclaimed CL-implementing teachers. Moreover, guides were prepared for semi-structured interviews to be held with educational supervisors and the teachers who were involved in the classroom observation. The content of these, and the sample for Phase Two, depended on the outcomes from Phase One. The implementation of both phases is described in the next chapter.

Chapter Seven

Methodology Part Three: Implementation

Introduction

The foregoing chapters have discussed the philosophical underpinnings of the research and explained the selection of research methods and development of data collection instruments and procedures for both phases of the study. In this chapter, I report on the implementation of each phase, successively, including administrative and other difficulties faced, and how these were addressed. I also provide an evaluation of the research process from the perspective of quality criteria, the traditional criteria of validity and reliability and the alternative qualitative criteria of trustworthiness (comprising credibility, dependability, transferability and confirmability) and authenticity. I conclude the chapter by discussing how ethical considerations were observed throughout the research.

Phase One: The Survey

Gaining Access

In the first semester of the academic year 2012-2013, I travelled to Saudi Arabia in order to conduct the first phase of the study. The preparation for this phase took a great deal of correspondence. Reaching agreement with the supervisors of the study regarding the research instruments after the pilot study for the first phase of the empirical study, the survey, was the first step; then I had to apply for ethical approval from the Faculty of

Education ethical committee before the main implementation. When the ethical approval was obtained along with a letter from the supervisors to my sponsors, both were used in correspondence with other parties involved in the study, together with a detailed schedule. These were used to apply for formal permission to travel in order to conduct the empirical research, from my sponsor. The documents were sent via the Saudi Cultural Bureau website in London to open a file to be sent to my university (Umm al-Qura University) in Saudi Arabia, to obtain formal approval for conducting the study and then to the University College in AlQunfutha, a branch of Umm al-Qura University, where I am employed as a lecturer. The distance between the main university and the college-more than 300 miles slowed the process of correspondence between the branch and the main university on one side and with the Saudi Cultural Bureau from the other side, which led to a delay in the start of the study. When the agreement letter was obtained, the educational department in the University College of AlQunfutha formally sent it with brief details of the study to the Education Administration of AlQunfutha. The Education Administration in turn sent its permission to the Education Department in the university and also to the Office of Education in Alaurthiah Ashamaliah sector where this research took place. I had to submit the research questionnaire to both of them. This was understandable as they wanted to read more details about the research and also to show the Ministry of Education that research was taking place in their schools. The Office of Education in Alaurthiah Ashamaliah delegated responsibility for this to the Arabic language supervisors, since they were concerned directly with the research matter. These processes consumed more than two months, since the required correspondence involved more than six parties: myself, my supervisors, the university ethical committee, the Saudi Cultural Bureau in London, the University of Umm al-Qura in Makkah, the University

College in AlQunfutha, the Education Administration of AlQunfutha, and the Office of Education in Alaurthiah Ashamaliah sector. From this experience I learned that this process should have been started earlier, to give more time for communication rather than expecting the process to be completed in a short time. Finally according to Saudi regulations, Umm al-Qura University allocated a member from the same department where I work to supervise and monitor me, in order to produce a report for the Saudi Cultural Bureau in London, to show what I had done. The head of the Education department was assigned this role.

Administering the survey

There were two possible ways of delivering the survey. The first one was preferable, and more common in the region and time saving; this was for Education Office in the region to post the questionnaire to all of the 29 primary schools. The other possible method, rather than formal posting, was to go myself to all the schools. I chose the formal method, since it was more systematic, reduced the risk of ethical considerations affecting the research, and gave the participants the freedom to take part in the study or not without feeling pressurised or embarrassed by my presence. Prior to distributing the survey, I verified the number of Arabic-language teachers in primary schools by consulting two educational supervisors, and as a result 79 survey questionnaires were distributed. I therefore made sure that a letter from the educational administration was sent to schools, including a statement of ethical consideration such as no incentive to fill in the survey, that participation was voluntary, teachers could withdraw at any moment and would incur no harm for not participating. The introductory letter also included brief details about the study and ethical approval.

However, when the time come for returning the questionnaires, I found that not all schools had received them, because the postman had been in hospital for two weeks and did not deliver to all the schools, since the schools are far from each other and some are in remote areas. This was an obstacle which was not expected, and I had to consider whether I should redeliver the questionnaires to all the schools again or check which schools had already received them. An ethical issue arose here because if some schools had received the questionnaire and the teachers had chosen not to participate, as was their right, delivering it again to them formally may have been construed as telling them they must take part. Therefore, it was better for that reason and to save time for me to deliver a questionnaire personally. Now I had to decide whether I should approach all the schools and destroy all the returns from the formal posting or if I should find out which schools had already had the questionnaire and send it to the rest. I decided to find out which schools had received it by asking the manager of the Education Section in the region to contact all the schools' head teachers to find out only whether they had received the questionnaire or not, without chasing them to reply. He was to explain to them that we were trying to find this information to determine whether or not the questionnaires had been delivered, since if they had been then this school would not have them redelivered in person. If they did not want to participate, it was their right to decline. After making all of those contacts, 19 schools were identified which had not received the survey, so I had to visit them and deliver the questionnaire to them.

After all the above, 65 questionnaires were returned and I was satisfied with this response rate. The high return number might be because the questionnaire included only closed questions, which are easier for respondents to answer. Other explanations might be

interest generated by the knowledge that I had been studying in the UK for about six years, as well as local activism for development in the region.

Analysis Procedure

Responses to the questionnaire were coded and input into the computer for analysing using the Statistical Package for Social Science (SPSS). Descriptive statistics - frequencies and percentages- were calculated for each demographic variable and response category of the CL and training- related items, and the results displayed in tables and figures. In order to derive deeper understanding of the data, a number of cross-tabulations were also carried out, between selected items of CL understanding and the variables, frequency of training, rating of training quality, and self-rated understanding of CL; between declared use of CL and training, and between declared use of CL and teachers' demographic characteristics. The outcomes are reported in Chapter Eight.

Phase Two: Interviews and Observation

As I already had permission to implement the research in al Alaurthiah Ashamaliah region, this shortened the process for the next phase. In the first semester of 2013/2014, I went back to Saudi Arabia. This phase included semi structured interviews with teachers who volunteered to participate, and with two educational supervisors, and also observation of the practice of cooperative learning with the interviewed teachers. I started by contacting the nine Arabic-language teachers who had expressed willingness to take part in this phase of the study, in order to negotiate with them regarding when the observations would take place. The following week I contacted the heads of these schools, out of respect for their positions, although my visits were arranged with teachers.

This had to be done, even though they had received the consent from the Educational Office; otherwise they might have felt they were being ignored. A problem arose due to a shortage of teachers in primary schools, resulting in 38 teachers having been asked to teach in two schools. Two of the nine original volunteer teachers were affected and so refused to take part, explaining that it would be hard to find a suitable time for me. I invited them to call me when they were available as long as I was in the country, but did not hear from them. Prior to my departure I called both of them to see if I could visit them, but they apologized for not being available. The shortage of teachers also caused a difficulty in arranging the visiting timetable. There was a conflict between some schools and the administration in the region, as they thought other teachers from other schools should have been asked to work in two schools, not their staff. Further problems arose because it was the rain season. The topography of the region is mountainous and with dangerous valleys. In the last few years, the Ministry of Education has given the authority to the region's administrative manager to close schools when there is a risk of heavy rain or dusty storms, as a consequence of some incidents where pupils' lives were lost. The schools were closed for seven days. This affected the plan as well. Another issue in Saudi education is the cultural problem of not taking seriously the first week in the semester, the week of Al Haj holiday and the week after it. I could not be confident of normal attendance and normal classes in those weeks. In these circumstances I had to be flexible in order to have this research done in the best possible manner. I visited each school for two days before the observations and interviews. One teacher asked me to give him the interview questions to answer at home as he would be more comfortable to do so. We agreed on this, on the basis that he was happy for me to ask him any follow up questions when needed.

Teacher Interviews and Observation

The school visits were carried out in the first semester of the 2013-2014 academic year. I visited one teacher per week, to allow time for a preliminary visit prior to the day on which the interviews and observations were scheduled. The purpose of doing so was to become acquainted with the teacher and the school, and to give the teacher and pupils the opportunity to become comfortable with my presence. In this way I hoped to reduce the effects of shyness, nervousness or simply the novelty of having a stranger in school, on participants' behaviour. During these preliminary visits, I also confirmed with the teacher the time and location of the class to be observed, and the venue for pre- and post-lesson interviews - a free room in the school chosen by the teacher in cooperation with his colleagues and the headteacher. I explained again the procedure that would be followed in collecting data and repeated the assurance of anonymity made during the initial contact.

One the day of data collection, I took care to arrive at the school as early as possible, in order to maximize my engagement with the setting and the participants. After a courtesy visit to the headteacher, I attended the communal exercise session that starts the school day. Generally, teachers chose to be observed during the second or third lesson period of the day and had arranged with the headteacher to be free for interview in the periods immediately before and after the observed lesson. In the pre-lesson period. I conversed informally with the teacher before conducting the pre-lesson interview concerning his plans for the lesson. These interviews were quite short, typically around 10 minutes. I left it to the teacher's discretion whether we entered the classroom together or he entered first to make any necessary preparations, but in all cases I was present for the start of the lesson and remained in the classroom until it ended.

For recording the lesson activity, a video camera on a stand was set up close to one group. I told the pupils not to worry about the camera and asked them simply to behave as they would normally. Although the pilot study had demonstrated that for effective recording it was necessary to focus the camera on one group, rather than attempt to cover the whole room, my observations and field notes covered the class as a whole. I was not personally involved in any classroom activity. At the end of the lesson, I switched off the camera and thanked everyone for their participation.

After the observed lesson, after a few minutes break, I returned with the teacher to the room assigned to us, where we watched the video recording together and discussed the events of the lesson. In these discussions, I did not criticize the teacher's lesson or classroom management; my focus was on understanding why events had happened as they did, and how the teacher interpreted them. We then proceeded to the general interview. All interviews were recorded, with the teacher's permission, using a small digital recorder. Following the interview, I ended the visit with a final call on the headteacher and thanked him for his cooperation in facilitating the visit.

When I returned to the UK and transcribed the interviews, I realized that it would have been beneficial if I had asked further questions during the interviews, especially regarding culture. Such questions had not been covered originally, for two reasons. One was time constraints, given that each teacher had to free himself for at least three 45-minute periods for the study, and I could not prolong the interview, further. The other reason was the lack of confidence of some participants, which limited their interaction in the interviews, despite my probing and encouragement. Therefore, I contacted them through the available means, the WhatsApp application and emails, to see if they would

be prepared to answer a few open questions and forward their responses to me. There were five main questions:

How suitable is the Saudi culture for the implementation of cooperative learning?

What factors can help to apply cooperative learning in our culture?

What are the cultural factors that may hinder the application of cooperative learning in our schools?

How would you describe the Saudi society in terms of competitiveness or collectiveness?

How would you describe the school environment in terms of competitiveness or collectiveness?

In fact the original interview had partly addressed these issues but the participants had been unable to discuss these matters fluently. I hoped that, given the chance to respond in their own time, they might answer in more depth. Six of the seven teachers replied, although one of them again gave very short answers, which did not fulfil the intended aim of asking these further questions. The other five participants, however gave extended, thoughtful and interesting responses, which boosted the findings and thus the research.

Interviewing educational supervisors

With the educational supervisors, arranging the interviews went smoothly; the educational supervisors were cooperative with research in general and the current research specifically. There are only two Arabic-language educational supervisors in this sector. Both were given the semi-structured interview questions a week before the interviews. Both agreed to take part and for the interviews to be recorded. It was

explained to them that even after writing down the whole interview, they would have the chance to read it and make any changes they wanted. The interviews were held in their office, where they felt most comfortable, and the data and time were decided according to their convenience. The first interview with the first participant lasted 52 minutes and the other with the second participant, which was a week later, lasted 43 minutes. The interviewees had different ranges of experience; one was in his first year in supervision and the other had more than five years experience. Although employed in a supervisory capacity, neither supervisor had any special training for the role, or any qualifications beyond those of an ordinary teacher but they had applied for this job to have the chance to do further study, for MA and then PhD, as remaining full time teachers would make it difficult to do so.

Qualitative Data Analysis

The second phase of the research yielded a large volume of qualitative data, which was reduced, organised and interpreted by means of what Krippendorf (2004) calls an editing approach. It involved a recursive process of analysis of the text, physically organising and classifying the data into meaningful segments, coding the data into analytical subdivisions and looking for patterns (Knodel, 1993), in order to interpret meanings in the text.

Before embarking on this process, I had to decide whether or not to use one of the available computer software packages, such as Nvivo, which exist to facilitate the management of data. Such packages enable the researcher to code textual data into analytic categories, and to sort and retrieve segments of text associated with a particular code. An obvious advantage of such packages is the ability to process large volumes of

data at high speed (Krippendorf, 2004). There are, however, a number of drawbacks. Computer analysis may encourage a tendency to quantify findings, and can result in fragmentation and decontextualization of data. Sometimes, the same word may be used with different meanings or, conversely, the same idea expressed in different ways (Krippendorf, 2004). Easterby- Smith et al. (2002) suggest that relatively small data sets composing fewer than, say, 20 interviews, may be better understood by manual methods. In any case, computer analysis does not substitute for the critical thinking and analysis of the researcher. Bearing in mind these limitations of computer analysis, the small number of interviews, and my own wish to be as close as possible to and deeply engaged with the data, I decided to analyse the data manually.

The first step was to give each interview a code designation to be used when quoting segments of text, in order to contextualize the data without compromising the anonymity of the participants. These began with the designation T for teacher and S for supervisor, followed by a series number, from 1-7 for teachers, and 1 or 2 for supervisors. In the case of teachers, these codes were completed with a contextual designation: Pre (for pre-lesson interviews), Post (for post lesson interviews), Obs (for observation), Gen (for general interviews), and Rep (for report and discussion of video recording). I then re-read the transcripts and listened again to the recordings of interviews in order to correct any mistakes in transcription, note paralinguistic information such as tone of voice, and familiarize myself with the data.

The actual 'editing' involved a recursive process of coding, categorization and constant comparison. A transcript was read through briefly, noting apparently relevant information, the different types of information listed, and each item coded, with a label indicating what it was about. I then looked for possible relationships between codes,

grouping them into a smaller number of categories, which I further scrutinized in the light of the emerging picture. The process was repeated with other transcripts, generating new codes and categories as required, until the point was reached where all relevant information could be fitted into existing categories. The category content and labels were checked to ensure that all data was in the most suitable category and appropriately named, and categories were further grouped into major themes.

The development and naming of codes and categories was essentially data-driven; while theory-driven codes and categories can provide a useful starting point which speeds the analysis and facilitates consistency of interpretation, it was important to me to reflect participants' experiences and understandings as fully and accurately as possible and not distort them by forcing the data to fit preconceived categories. The labels used therefore were drawn directly from the text or, particularly in the case of category and theme labels, were my own creation based on reflection on the data. For example, teachers variously referred to "guiding", "explaining", "motivating" and "encouraging", and I combined these into a single category, which I labelled "facilitation". This category was subsequently positioned alongside others such as "didactic" and "managerial" under the major theme, "Teacher role". Examples of labels I have used to denote ideas and behaviours identified in the data, and the way I have grouped them, are shown in the Appendix.

Validity, Reliability and Alternative Quality Criteria

As noted in the discussion of the philosophical underpinnings of the research, differences in philosophy, approach and purpose have implications for the way in which research quality can legitimately be evaluated. For this reason, researchers such as Guba and Lincoln (1985) argue that the quality criteria traditionally applied to quantitative research, validity and reliability, must be reconceptualised for use in qualitative research, or even replaced, while Maykut and Morehouse (2002) insist that different criteria necessarily apply. In what follows, the quantitative aspects of this study are discussed in terms of the traditional criteria of validity and reliability. Then, the use of these criteria for evaluating the qualitative aspects of the research is problematized and reconceptualised, and suggested alternatives, trustworthiness (divided into credibility, transferability, dependability and confirmability) and authenticity are considered.

Evaluation of Quantitative Aspects

Validity

The data collection instruments must be valid in any social science to achieve high standards, findings, results, recommendations and conclusions (Nielsen & Buchanan, 1991; Burns, 2000). Cohen et al. (2007) highlight that validity is a cardinal point for the effectiveness of the research. Guba and Lincoln (1985) argue that validity should be addressed before reliability, since sufficient establishment of validity would achieve reliability, while establishing reliability does not necessarily lead to validity (Guba and Lincoln, 1985). In addition, Ary et al. (1996) assert that validity is more important and comprehensive than reliability, whilst also being harder to address in research. Bryman (2012, p. 47) believes that validity is "the most important criterion of research".

Many academic definitions of validity exist. Bryman simply defined validity as *"whether an indicator (or set of indicators) that is devised to gauge a concept really measures that concept"* (Bryman, 2004, p. 72). Moreover, Fraenkel et al. (2011) explain validity further as *"referring to the appropriateness, correctness, meaningfulness, and usefulness of the specific inferences researchers make based on data obtained through the use of an instrument"* (p. 162). Bryman (2012) distinguishes four types of validity which should be considered when conducting social research, which were all considered carefully here:

- Measurement validity, which is also known as construct validity. It refers to *"the question of whether a measurement that is devised of a concept really does reflect the concept that it is supposed to be denoting" (2012, p.47).* If a measure does not represent the concept to be investigated, then the findings will be subject to doubts and uncertainty. There is a link between measurement validity and reliability, since when the measure of a concept is not stable this would call into question its reliability. In this study, establishing measurement validity began with building up the concept of cooperative learning through reading previous research, especially on the factors that make cooperative learning work. This information was taken into account when developing the research instruments, to ensure that the items fully and accurately reflected cooperative learning theory. As indicated previously, based on analysis of the literature, five preliminary factors for the successful implementation of cooperative learning were identified and each was then divided into skills that should be measurable. These skills were reflected in all of the research instruments: there were questions covering the use of these skills in the questionnaire, the interviews and the observations. The triangulation of these three research methods also increased

confidence in the validity of the measures and, hence, of the results and the conclusions drawn from them.

- External validity looks at the possibility of generalising the results of the undertaken research beyond the context of the research, or whether the results are only applicable to the participants in the research. External validity is related to the representativeness of the sample. In this study, the questionnaire was delivered to all Arabic language teachers in all boys' primary schools in one district, which shares the same culture, curriculum and education system with other districts over the country. Given the similarity of social context and educational structure throughout Saudi Arabia, generalisation will be possible since there are no variable factors or significant differences between the area in which the research took place and the Kingdom as a whole. As such, the results, conclusions, and the recommendations for improvement of the use of cooperative learning from this research can be generalised to the entire education system of Saudi Arabia.

- Ecological validity means that the social research settings and the practice should be natural and free from being affected by the researcher, attitudes, knowledge and practice of the teachers represent the normal life of the participants. Bryman (2012) explains this further:

> *"If research findings are ecologically invalid, they are in a sense artefacts of the social scientist's arsenal of data collection and analytic tool. The more the social scientist intervenes in natural settings or creates unnatural ones, such as a laboratory or even a special room to carry out interviews, the more likely it is that the findings will be ecologically invalid"* (2012, p. 48).

Although it is not possible to eliminate completely influences arising from research (if only the participants' consciousness that they are taking part in research), every effort was made

to maintain natural conditions and encourage responses that honestly and openly reflected the day-to-day experience and practices of the respondents. For example, respondents were assured of anonymity. Also I left and allowed the participants to complete the questionnaire on their own in the space of one week.

In addition to the forms identified by Bryman (2012), other forms of validity have been distinguished and were considered in this research in order to ensure valid results:

- *Face validity* refers to how well the instruments appear able to measure what they are expected to measure; it is similar to 'measurement validity' explained above. This type of validity is subject to interpretation (Fraenkel et al, 2011; Hernon & Schwartz, 2009). Face validity is measured *"by having experts examine the measure and agree that it does assess what it is supposed to assess. The measure looks right, reads right, feels right"* (Light, Singer, & Willet, 1990, p. 152). In this research, educational experts, mainly the supervisors for this research, examined the measurement instruments and pre-piloting and piloting were carried out to obtain teachers' feedback before the main empirical research. Careful translation of the research instruments into Arabic was necessary in order to produce a translation of the meaning, rather than a mere translation of the words. As explained previously, the back translation technique was used to ensure a comparable meaning in both languages.

- *Content validity* is frequently used in the social sciences and is concerned with the representativeness of the instrument items, in order to ensure that they represent the content of the concept that is under investigation in the given research (Hernon & Schwartz, 2009; Monette, Sullivan, & DeJong, 1994). Furr and Bacharach (2008) described content validity as *"the degree to which the content of a measure truly reflects the full domain of the construct for which it is being used, no more and no less"* (Furr & Bacharach , 2008,

p. 173). Similarly, Wallen and Fraenkel (2001) also argued that content validity is *"a matter of determining if the content that the instrument contains is an adequate sample of the domain of content it is supposed to represent"* (p. 91). Standards for validation have not been agreed upon in the social sciences but Wallen & Fraenkel (2001) Carmines & Zeller (1979) and De Vaus (2002) suggest that content validity is achieved through the use of expert judgments, which were achieved in this research with university supervision. Furthermore, the aforementioned researchers suggest that all researchers conduct pre-pilot tests of the instruments that they will use in the research (Wallen & Fraenkel, 2001; Carmines & Zeller, 1979; De Vaus, 2002), which has also been done in this research.

- *Criterion-related validity* is used to test the accuracy of the instruments used by comparing the results of the instruments to other instruments commonly known to measure the research focus. There are problems with the application of this, however, because there are various and different types of behaviour that cannot be converted into an appropriate criterion (Hernon & Schwartz, 2009). There are, nevertheless, two different types of criterion-related validity: predictive and diagnostic (concurrent). These types of criterion-related validity differ in the time at which the data is collected. Predictive validity estimates or predicts a future outcome by considering the correlation between the results and the criterion at a later time after the data has been collected, whereas diagnostic validity diagnoses the existing or current state of a subject in relation to the criterion by analysing and correlating the given results instantaneously (Hernon & Schwartz, 2009). It is difficult to create common criteria for the behaviour of teachers and students in relation to cooperative learning. However, after much research, I identified five preliminary factors for the successful use of cooperative learning, which existed in pioneering research, for example, the key skills and necessities that were established by Johnson et al (1994), and

Slavin (1995). At the same time, it was borne in in mind that there are cultural and contextual differences between education in Saudi Arabia and Western countries. For example, in Saudi Arabia, education is gender-segregated, whereas, in the West in the majority of schools both genders are educated together. Such differences were considered in designing the research instrument and taken into account in interpreting the findings in comparison with previous research.

Reliability

Ary explains that reliability is important because *"[t]o have validity, a measure must also have reliability"* (Ary et al., 1996, p. 292). Bryman (2012, 169) defines reliability as "refer[ing] to the consistency of a measure of a concept". The importance of reliability "*lies in others concurring that given the data collected, the results make sense*" (Merriam, 2002, p. 29).

There are two main types of reliability in relation to quantitative analysis: external and internal. External validity concerns stability over time. The test-retest is a method to assess the external consistency in quantitative analysis. This requires that the same participants respond to the same test twice and that the results are the same each time (Hernon, & Schwartz 2009; Rudner & Schafer, 2001). According to Rudner and Schafer (2001), the limitation of this method is that

> *"[i]t requires two administrations of the same test with the same group of individuals. This is expensive and not a good use of people's time. If the time interval is short, people may be overly consistent because they remember some of the questions and their responses. If the interval is long, then the results are confounded with learning and maturation, that is, changes in the persons themselves"* (p. 2).

As an alternative, pre-testing is a method to assist in ensuring the external reliability of the results but the sample of participants used in the main research would not necessarily answer the questions in the same way, since pre-testing entails different participants completing the quantitative research and so wordings may differ (Hernon, & Schwartz, 2009). To produce external reliability, the pilot sample should reflect the main study sample. In this study the questionnaire was pre-piloted with Saudi Arabian primary school teachers in Hull, and piloted in Saudi Arabia with Arabic language teachers in a primary school in a different region, who would not be participating in the main research. This enabled the clarity and appropriateness of the questionnaire to be tested before introducing it to the sample. This increased the reliability of the collected data.

Evaluation of Qualitative Aspects

Writers such as Sandberg (2005) argue that the criteria of validity and reliability, derived from the objectivist tradition, are not appropriate to research approaches that envisage multiple, subjectively- constructed "realities". Qualitative researchers address the problem, either by reconceptionalising validity and reliability, or by proposing alternative criteria.

<u>Internal validity/ Credibility</u>

To begin with the concept of internal validity, which traditionally refers to the extent to which the research reflects a "true" state of affairs, this is problematic in research that explores others' interpretations and constructions of their experiences, where knowledge is created through interaction between the researcher and participants. This was the case in Phase Two of this research, involving interviews and lesson observations, on which the teacher and, I shared our reflections. In such a situation, the concern is not whether the account reflects a single reality or truth, but how well it reflects the experiences and perceptions of the

participants (Merriam, 1988; Miles and Huberman, 1994). Writers such as Guba and Lincoln (1989) and Creswell (2014) call this "credibility".

Several approaches were adopted to ensuring the credibility of the research. The first was engagement between myself and the participants, to encourage the building of rapport and trust, and thereby reduce the likelihood of distortion, misinformation or attempts to give "desirable" responses. This engagement began with the lengthy process of gaining access, described earlier, which assured the participants that all the necessary approvals had been obtained. I also carefully explained the purpose of the research, the safeguards available to participants, and that recording of interviews was solely to enable accurate transcription.

A second strategy was participant verification, also called "member checks". Interviewees were offered a copy of their interview transcript and an opportunity to make corrections, retractions or additions. In the case of the observation, the reflective report following each observed lesson was discussed with the teachers concerned. Guba and Lincoln (1989) suggest that such member checks can help to counteract the possibility of research bias. Hammersley (1992) warns against overreliance on this method, arguing that participants, too, may be liable to bias or misunderstanding. This does not mean, however, that member checks have no value, but that multiple quality criteria should be used, as is done in this study, and that the researcher should be alert to vested interests and personal agendas, in order to challenge and critique them in the research.

The third approach to establishing credibility is triangulation. This is one of the strategies Merriam and Simpson (1995) advocated to ensure that research is as accurate as possible, and therefore, reflects the reality of the study. The use of multiple research instruments and mixed methods allows the researcher to triangulate the data for more valid results. Fellows

and Liu (2008) recommend the use of triangulation because different research methods have different strengths and weaknesses, and thereby combining the use of complementary research methods will make the results more valid and reliable. In this research, the use of questionnaires, semi-structured interviews and observations enabled the triangulation of data collection. Furthermore, triangulation was also used in the interviews of the participants, since Arabic language teachers and Arabic language educational supervisors were interviewed, giving a wider range of perspectives and knowledge of the use of cooperative learning in Saudi Arabian classrooms.

Patton (2002) argued that *"....the strategy of triangulation really pays off, not only in providing diverse ways of looking at the same phenomenon but in adding to credibility by strengthening confidence in whatever conclusions are drawn"* (p. 556). As such, triangulation increases the credibility of the research, which adds more value to the research findings and subsequent recommendations that are then made.

External validity / transferability

External validity is argued to have little meaning if the research outcomes are context-specific, reflecting a particular environment, values and experiences (Guba and Lincoln, 1989). Merriam (1988) is one of those who assert that qualitative research looks for a unique interpretation of events, rather than generalisation. An alternative to this criterion is transferability, which is relative, and is a judgment by the reader of the degree of the match between the original research context and the one to which transfer is considered. The researcher's role is to provide sufficient information to facilitate such a judgment. Ttransferability was assured here by using what Geertz (1973) names 'thick description', which refers to "rich accounts of the details of a culture" as Bryman (2012, 392) defined it.

Therefore, I explained aspects of Saudi culture and highlighted the similarity in Saudi culture from one region to another. I also explained the framework and policy of the Ministry of Education. On this basis, readers inside and outside Saudi Arabia will be able to assess the extent of similarity and difference between the research context and their own settings, in order to make an informed judgment as to the transferability of the research conclusions.

Reliability/ dependability

Traditionally, reliability is viewed in terms of stability and consistency, either over time or within a research instrument. Neither is really applicable to qualitative research. Stenbacka (2001) rejects the applicability of reliability in such research because of its connotations of measurement. Moreover, consistency over time is an inappropriate criterion by which to evaluate research based on participants' experiences and interpretations, which are inevitably subject to change (Guba and Lincoln, 1989). As an alternative, researchers advocate dependability, which can be established through an "inquiry audit" (Hoepfl, 1997), which monitors the quality and appropriateness of the research process. To this end, Miles and Huberman (1994) recommend retention in retrievable form of all research materials. While Sandberg (2005) calls on researchers to demonstrate how they have formed and checked their interpretations. In other words, dependability requires demonstrable integrity in carrying out the research and openness about the researcher's role. To achieve dependability, the research supervisors have played a major role in the 'auditing' technique. Full records were kept in all phases of the research, and all stages were carried out under their supervision, from deciding the research questions, through methodology to the outcomes. All materials were accessible to the supervisors, who checked and assured that appropriate research procedures were followed carefully. Moreover, in reporting the research, I have been open about my experience and role. This latter aspect of dependability is closely akin to what some

researchers distinguish as a separate criterion, termed confirmability, which concerns the level of "objectivity" in the research and the impact of the researcher's values (Creswell, 2014). The audit (supervision) technique described above also established the confirmability of the study, as it ensured I did not try to use data to support prior assumptions or maintain a certain theory. The use of triangulation methods and data also increased the confirmability of the findings since it gives different varied data. Another approach to confirmability advocated by Remenyi et al (1998) is to evaluate the various aspects of the research in relation to relevant literature. It has already been shown how the research constructs were informed by the literature. In a later chapter, the findings, too, will be discussed in the light of previous theoretical and empirical work.

Authenticity

Authenticity is the term used by Guba and Lincoln (1989) to denote their proposed set of outcome criteria by which to evaluate qualitative research. Authenticity, according to Bryman (2012), considers issues of the wider political impact of research, such as fairness, and participant learning. It is controversial and has not had a wide impact among researchers; it is not popular in social research, with the exception of action research. Since the research is exploratory, not action research, and given the time constraints of a PhD, these measures, which extend beyond the time-frame of the research, would be difficult to verify in the context of this research. As will be seen in a later chapter, the post-lesson interviews and reflections on the video recordings showed some evidence of teachers' learning. Nevertheless, I have chosen to concentrate on the other traditional and alternative criteria outlined above, which provide ample support for the research process and invite confidence in its conclusions.

Ethical Considerations

Ethics is *"the norms or standards of behaviour that guide moral choices about our behaviour and our relationship with others"* (Cooper and Schindler, 2008, p 34). According to Matthews and Ross (2010, p71) it can be thought of as *"a set of rules by which individuals and society maintain moral standards in their lives."* Ethical issues arise in any social activity where an individual's actions have impacts on others, and the conduct of research is no exception. According to the Economic and Social Research Council (2009):

> *"Research ethics refers to the moral principles guiding research, from its inception through to completion and publication of results and beyond for example the curation of data and physical samples after the research has been published."*

It draws on both general moral principles, and more specific principles associated with particular discipline or activity (Plowright, 2011).

Creswell (2014) notes that each stage of the research process gives rise to its own set of ethical issues, from the planning stages (for example in site selection and obtaining necessary permissions) , through to the reporting and dissemination of findings (for example, honest, unbiased reporting, avoidance of plagiarism , and transparency about who sponsors or benefits from the research.

Hammersley and Traianou (2007) identify five main ethical criteria for educational research, namely:

- Harm: will the research cause harm to participants?
- Autonomy: can participants decide for themselves whether or not to participate?
- Privacy: what information will be made public?

- Reciprocity: what if anything, should participants expect in return for their involvement?

- Equity: everyone involved in the research should be treated equally, with no unjust favour or discrimination.

A number of measures taken to comply with these principles have already been touched upon in the section on quality criteria, because of their implications for research validity and trustworthiness. Nevertheless, it is worth reiterating the key points here.

Ethical issues were considered from the outset of the research and included gaining ethical approval from the University of Hull Faculty of Education Ethics Committee, as well as obtaining all the necessary permissions from education authorities at all levels in Saudi Arabia. Prospective participants in phase one, the survey (i.e all boys' primary Arabic language teachers) were provided with a cover letter which, as advised by Matthews and Ross (2010) give clear, adequate information about:

- the value of the research

- why it was being undertaken

- the practical implications, i.e what was required of participants,

- assurance that participation was voluntary and they could withdraw at any time

- what would be done with the data, including provisions for maintaining anonymity and confidentiality

- my "authority" to carry out the research.

In addition to adhering to the formal requirement, I was mindful throughout of my responsibility to the research participants. Every effort was made to ensure that they were comfortable with the research proceedings and felt able to respond naturally, without coercion, constraints or "leading" on my part.

In this respect, specific concerns arose in Phase Two (observation and interviews) arising from my direct engagement with teachers in the schools, the risk of disruption to their work, and the fact that the observation involved watching and video-recording children as they worked.

As Creswell (2014) advises, the researcher should respect the research site and minimise disruption; this is a concern particularly in qualitative studies or phases involving prolonged observation and/ or interviews. For this reason I consulted with teachers as to which classes to observe, and the timing and location of interviews. Teachers were not expected to change their lesson plans and delivery for the purpose of the study, but simply to follow their existing schedule and plan. This was to avoid ethical concerns that could arise if pupils were taught different content, or in a different manner than usual, which could give rise to advantages or disadvantages compared with other classes. Moreover, I was careful that teachers' participation did not interfere with their duties in ways that might expose them to disapproval from headteachers or supervisors. When conducting the observations, I tried to remain as unobtrusive as possible.

Particular sensitivity surrounds research involving children. Children are not considered competent to give informed consent, so others may be asked to give consent on their behalf. In this case, consent to observe lessons and, hence, children at work, was obtained from successive levels of authority, from the Ministry of Education down to the class teacher. It is important to note, however, that the focus of the observation was the teacher's work; no judgements were made about individual children based on their behaviour or performance in the observed lesson, and video recordings were kept secure, and seen only by myself and the teacher concerned.

As for the interviews, these gave rise to their own particular concerns. Qualitative interviewing can be seen as a moral inquiry (Kvale, 2007) where the research has a responsibility towards human well-being, as well as the increase of scientific knowledge (Creswell, 2014). This necessitates sensitivity to particular power imbalances between the researcher and participants and to the impact of questioning on interviewees. In this study, for example, it was important that participants understood that I had no power to intervene in conditions in an individual school- nor would participants' responses be used to draw conclusions as to the knowledge or competence of individual teachers. In addition to these concerns, it was important to ensure the security of recorded and transcribed data, and given the small size of the sample, particular care was needed to ensure participants would not be identifiable (Matthews and Ross, 2010). In reporting the findings of the study, participants are either referred to in aggregate or, when individuals are quoted, they are given coded references to ensure anonymity. A particular concern arose with regard to the educational supervisors, who may be identified by their position. In this case, particular care was taken to ensure that they understood the implications of their participation and were willing to be quoted.

Overall, the effort invested in all these measures helped in building respectful and trusting relationships with participants, which in turn encouraged their willingness to spare time for the study and respond freely.

Summary

As this chapter has shown, the implementation of this research was a lengthy process in which some difficulties were encountered. Nevertheless, these were successfully overcome. A good response rate was obtained for the survey in Phase One, which also enabled the

identification of a sample of CL-implementing teachers who were willing to participate in Phase Two. Although the number of teachers able and willing to be observed was small, they showed a high level of engagement with the study and, with the agreement and facilitation of headteachers, spared considerable time to share their opinions and experiences with me. A combination of descriptive statistics and crosstabulation, for the survey data, and manual thematic analysis for the qualitative data, produced both breadth and depth of information. I have discussed how both traditional and alternative quality criteria were met in this research, which increases confidence in the validity, reliability and trustworthiness of its conclusions. The outcomes of this empirical work are reported in the next three chapters.

Chapter Eight
Results for Phase One: The Survey

Introduction

As explained in the previous chapter, in phase one, a questionnaire survey was conducted to assess teachers' understanding of cooperative learning, to gauge the prevalence of cooperative learning practice in the region, and to identify, from amongst those describing themselves as users of cooperative learning, participants for phase two. This chapter presents the outcomes of phase one, beginning with demographic profiles of respondents. Responses are then reported for experience of training in cooperative learning, use and understanding of cooperative learning, pre-requisites for cooperative learning, and attitudes towards the quantity and quality of cooperative learning. The relationship between training and understanding of cooperative learning is analysed, as are differences in the use of cooperative learning based in demographic characteristics. The chapter ends with an explanation of the recruitment of participants for phase two.

The Population, Sample and their Demographic Profile

The population was defined as 'all Arabic Language Teachers in Primary Schools in Alaurthiah Ashamaliah Province' in Saudi Arabia. 79 members of this population were identified and all of them were invited to participate in the survey. 65 of them partially or fully completed the questionnaire, giving a response rate of 82.2%.

Age of respondents

More than half of the respondents (50.8%) were aged 33-42 and just 12.3% of respondents were aged 23-32. Around one fifth of respondents were aged 43 to 52 and 9.2% of respondents (six teachers) were aged over 53.

Figure 8.1: Age of respondents (n=65)
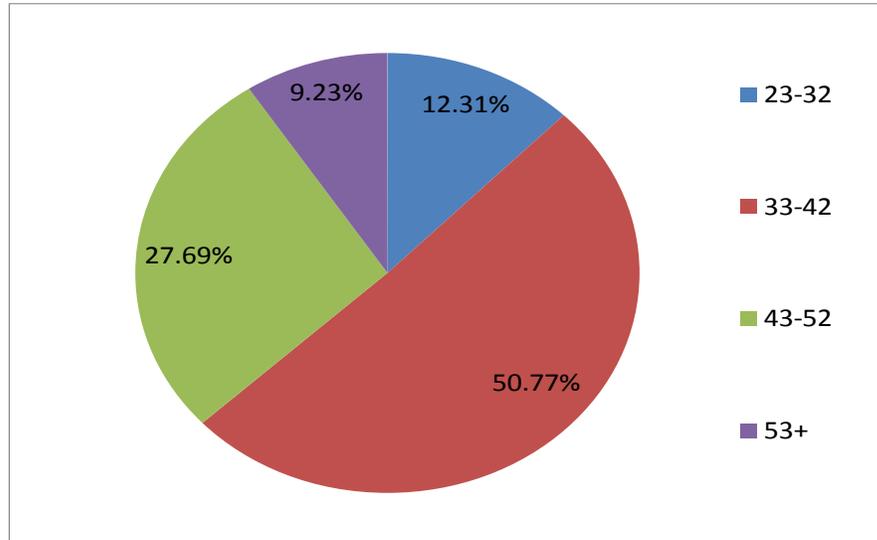
Level of experience of teachers

The vast majority of respondents were very experienced teachers as shown by the data presented below in figure 8.2.

Figure 8.2: Respondents' number of years of teaching experience (n=65)
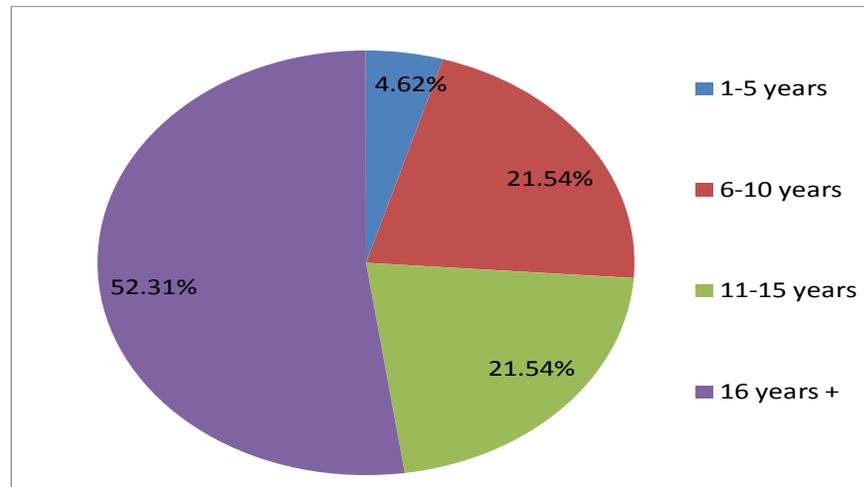
More than half of the respondents (52.3%) had 16+ years' professional experience. Around one fifth (21.5%) had six to 10 years' experience and the same percentage had 11 to 15 years' experience. Only 4.6% of respondents had 1 to 5 years' experience.

Qualifications held by respondents

Just under three-quarters of respondents (73.8%) had a Bachelor's degree; around a quarter had a Diploma and just 1.5% had a Master's or PhD degree as indicated below in Figure 8.3.

Figure 8.3: Highest qualification held by respondent (n=65)
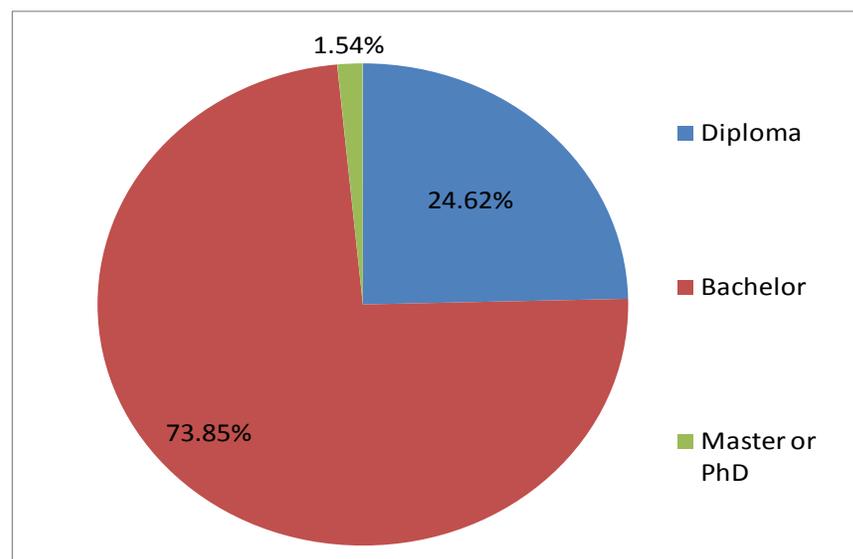
This suggests that the majority, with qualifications above Diploma level, were more specialised teachers in Arabic Language. The Diploma, however, is a general certificate that enables a teacher to teach any subject. The last cohort of teachers graduating with a Diploma qualification was appointed in 1989. The Ministry since then has abolished the institutions that offered teaching diplomas, or upgraded them to colleges and then to Universities.

Given the rapid development of the Kingdom's education system and the concomitant changes in teacher training, it is very likely that the pre-service training of teachers who qualified many years ago would differ in duration, quality and nature. This is to some degree reflected in their qualifications: 100% of those with less than 11 years' experience have a Bachelor's degree, whereas 7.1% of those with 11-15 years' experience have a Diploma as their highest qualification as do 44.1% of those with more than 16 years' experience as presented below in Figure 8.4.

Figure 8.4: Number of years' experience by highest qualification held by respondent (n=65)
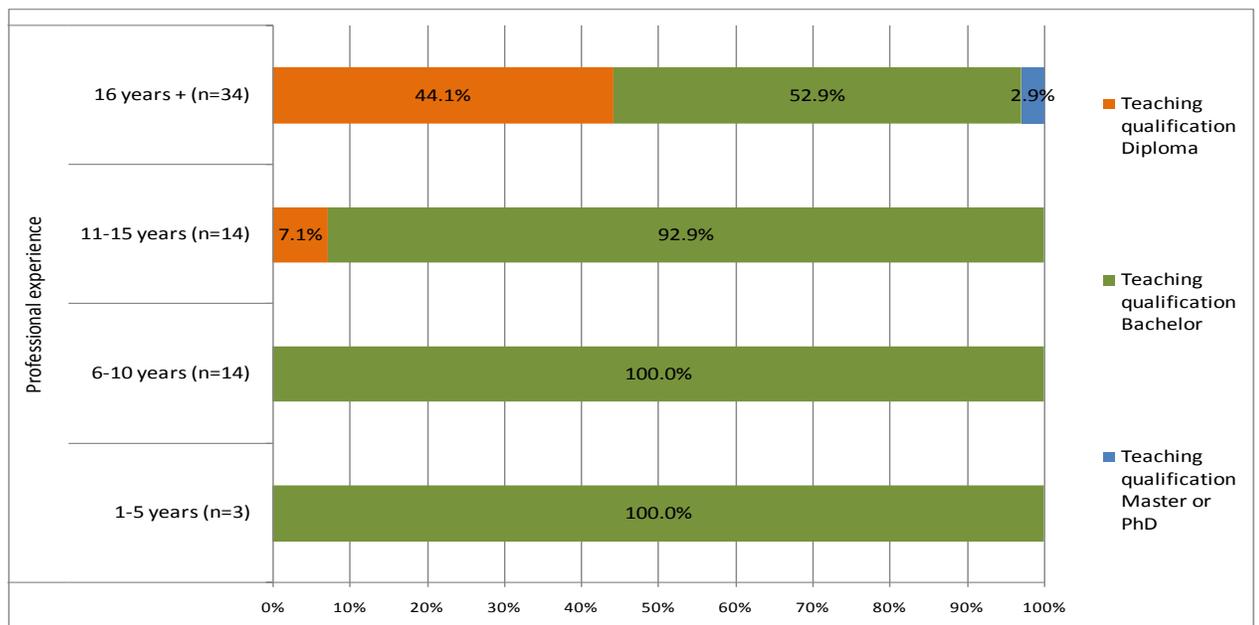
Experience of Training in Cooperative Learning

Respondents were asked if they had received training in cooperative learning. Just under one-third of respondents (30.8%) said that they had obtained some training on cooperative learning whereas 69.2% had not received such training. Possible reasons for this lack of training will be explored further later in this chapter and will be explored in-depth in the qualitative part of this study.

Potential barriers to training in cooperative learning

91.1% (n=45) of those who said that they had not received training said that they did not know of any courses on cooperative learning. Taking this at face value suggests that the major barrier to training in cooperative learning is simply the absence of such training or the lack of awareness of it.

Apart from the lack of availability of training, or the lack of awareness of training, other potential barriers to take-up of training in cooperative learning might include unwillingness or inability to attend training for personal reasons or lack of motivation, perhaps due to the poor quality of available courses or that such courses may be too theoretical. As 30.8% of respondents said that they had received training in cooperative learning, clearly some universities and regions have this training available and it may be that there is considerable variation by region or educational establishment. These possible barriers to accessing training in cooperative learning will be explored further in the interviews reported in Chapter Nine.

Extent of training in CL by age group

Figure 8.5 shows that none of the teachers aged between 23-32 (12.3 % of the sample) had received training in cooperative learning.

Figure 8.5: Age group and training (n=65)
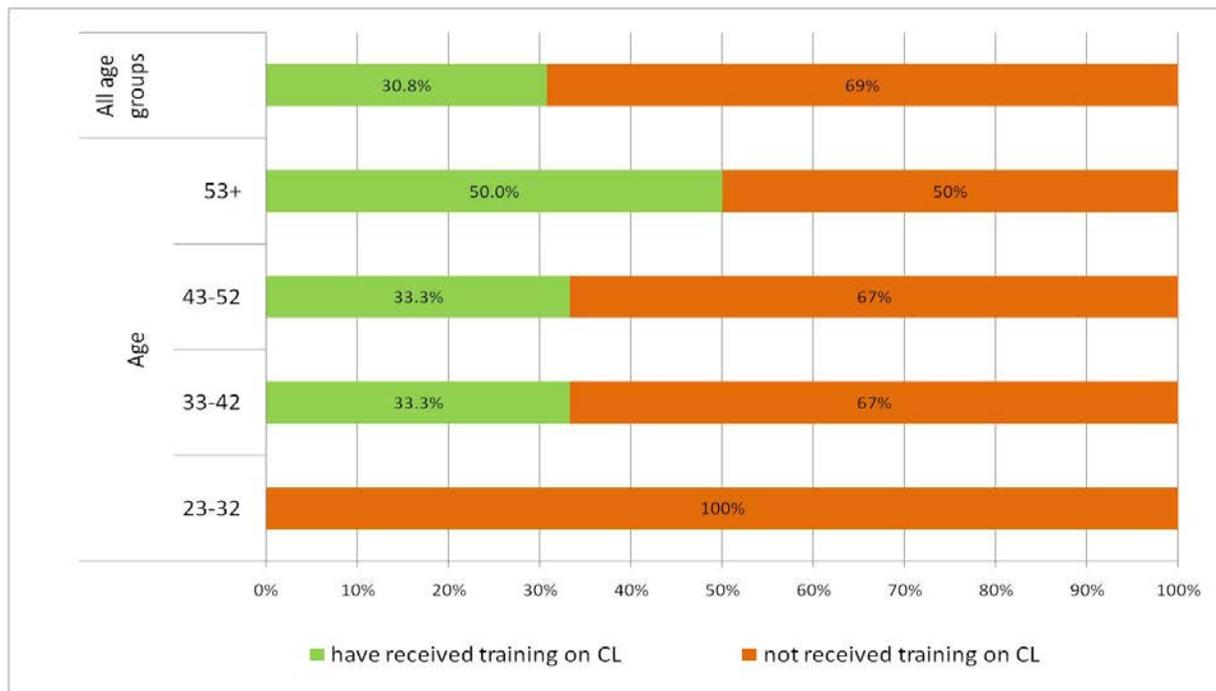
This is a major concern as this age group is the youngest in the survey and they are the most recent graduates whom we might expect to be the most up to date in their practice and preparation, having recently left Higher Education. If they have not had training in cooperative learning in the universities, this might suggest inadequacies in the teacher training programmes since training in cooperative learning is expected as part of the compulsory methodology of teaching modules. Another factor which may explain the apparent low rate of training in cooperative learning amongst younger teachers is that they have not had as much time as teachers in other age groups to take advantage of opportunities for continuing professional development, including training courses.

Fig 8.6 shows that teachers who have fewer years of teaching experience were less likely to have had training in cooperative learning compared to those with more years of teaching experience. However even amongst those with the most years of teaching experience, the proportion which reported receiving training in cooperative learning was still less than half

(41.2% of those with 16+ years' teaching experience said that they had received training in cooperative learning).

Figure 8.6: Level of teaching experience and receipt of training in cooperative learning and experience (n=65)

In a later section, the respondents' exposure to training in cooperative learning will be cross tabulated against their understanding of key concepts of cooperative learning, in order to assess the extent to which the training successfully developed teacher's understanding of cooperative learning or not.

Teachers' perceptions of training in cooperative learning

In order to find out about the quality of training courses in cooperative learning practices and understanding, it was necessary to investigate the quality of training courses in cooperative learning as this may lead to recommendations regarding the improvement of such training.

Those who had received training (n=20) in cooperative learning were asked about the trainer. The vast majority (85%) (17) of them said that their course had been led by an educational supervisor; 10% (2) said that it was a specialist trainer; while 5% (1) said 'other'. The small proportion of respondents who reported training by a specialist trainer may indicate that quality of the training is in doubt and may also suggest that there is a lack of qualified trainers.

In addition, teachers who had received training (n=20) were asked about the duration of the course. 95% (19) said that they had been on a course of one to five days' duration and the other respondent had been on a course that was 11 days or longer. No respondents said that they had attended a course of 6-10 days. The short duration of courses might render them ineffective, possibly because they might be too concentrated and so overload the participants, or might allocate insufficient time for practice and consolidation of learning. The second phase of this research, the semi-structured interviews, aims to shed more light on these issues.

When asked to rate the courses they had attended, of the 20 participants who said they had received training, 70% (14) said that their course on cooperative learning had been 'excellent' or 'above average', 15% (3) rated it 'average' and a further 15% (3) rated it 'below average'. These rankings are of course subjective; satisfaction with the course does not necessarily mean that the course was effective training in cooperative learning. Therefore, these ratings will later be compared with participants' understanding of cooperative learning.

Use of Cooperative Learning – extent and frequency

When respondents (n=65) were asked if they used cooperative learning in their teaching of Arabic language subjects or not, nearly two-thirds of respondents (64.6%) claimed that they did use cooperative learning. Just over one third (35.4%) claimed not to use cooperative learning at all. It may be that some teachers who believe that their practice includes

cooperative learning may not in fact be using cooperative learning according to commonly accepted definitions of this pedagogical style and this will be explored further through the observation and interview data.

Almost 65 % of the sample said that they used cooperative learning but more than two-thirds of all participants had not trained on cooperative learning at all. Given the high percentage of teachers who claimed to use cooperative learning but who also said that they had not been trained in cooperative learning, the likelihood of poor quality practice is high. In fact, 57.1 % (24) of the 42 respondents claimed to use cooperative learning had not trained in cooperative learning, which increases the doubt about the practice in schools. This will be investigated more in the report of the semi structured interviews conducted in Phase Two (see Chapter Nine).

Of the 20 teachers who had received training in cooperative learning, 90 % (18) used this practice, which shows a link between training and use which might be expected. Much more surprising is that 53.3 % of those who had not trained in cooperative learning claimed to use cooperative learning.

The proportion of teachers claiming to use cooperative learning was higher than expected from my experience of education in the region, and the comments of other educationalists (Alqarfi, 2010). 30.9 % of respondents who claimed to use cooperative learning in their teaching of Arabic language subjects said they did so 'always' (11.9%, n= 5) or often (19%, n= 8) which can be considered as everyday practice. However, two-thirds (66.7%, n= 28) said that they used it 'sometimes'; and 2.4% (one teacher) used it very rarely (see Figure 8.7). Thus, although a high proportion of teachers said that they used cooperative learning, the subsequent responses indicate that, nevertheless, they do not do so very frequently.

Figure 8-7: Frequency of using cooperative learning amongst users (n=42)
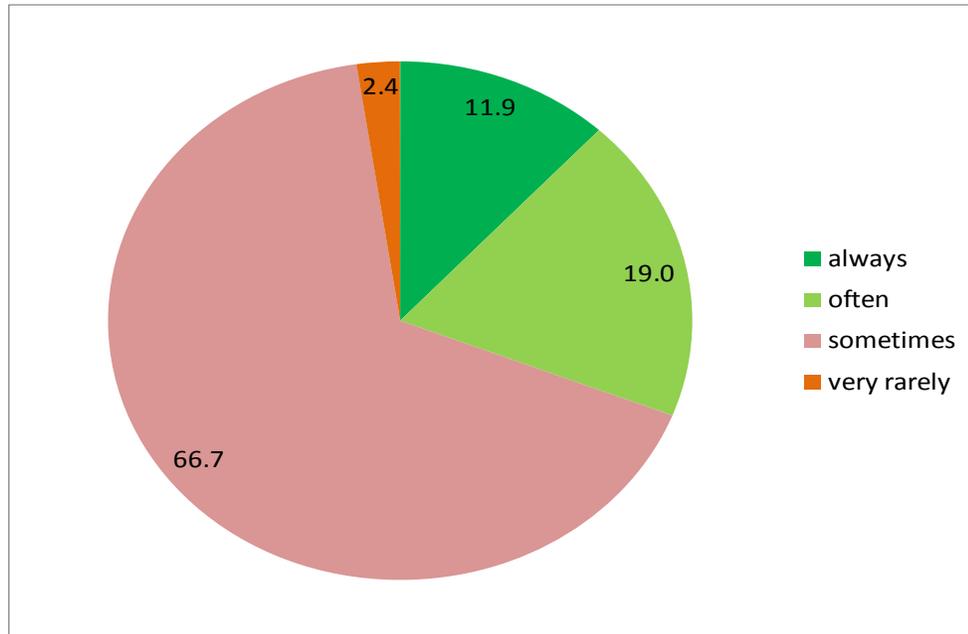
These findings indicate that in order to develop this practice, it would be necessary to find out about the quality of teachers' understanding of cooperative learning, why they do not use it more frequently, whether those who think that they are using cooperative leaning are actually doing so according to the accepted definition, why such a large proportion have not received training in cooperative learning and the quality of training in cooperative learning.

Understanding of Cooperative Learning

The survey aimed to investigate the understanding of cooperative learning amongst users and non-users of it. In the review of the literature in Chapter Two, four themes were identified which were common in the definitions of different researchers as follows:

1. Organising students, which emphasises the importance of preparing the class before the start through developing skills for small-group teaching.

2. Sharing common tasks to achieve shared results so that pupils know they must work together to succeed.

3. Communication and good social behaviour skills that encourage pupils to work together.

4. Interdependence and individual accountability among group members so that pupils must participate as much as they can, demonstrating fulfilment of their own personal duties and also recognising the necessity of unity within the group.

Therefore, seven statements were developed to measure teachers' understanding of the definition based on the above elements. All teachers, irrespective of whether they reported using cooperative learning or not, were asked about their understanding of the concept. Figure 8.8 (below) shows the results.

Teachers were more likely to show an incorrect understanding of cooperative learning when 'No' was the correct answer. The statement that elicited the highest percentage of correct responses was "Cooperative learning is a learning method where small groups of pupils share a task", but one of the most commonly misunderstood ideas was "All you need for cooperative learning to take place is to have the pupils sit in groups". Both lead to the conclusion that teachers know that cooperative learning requires sitting in groups and sharing tasks but they apparently believe that this is all they need to practise it effectively.

Figure 8.8: Teachers' understanding of Cooperative learning Concepts (n=65) Ranked descending on percentage of correct responses
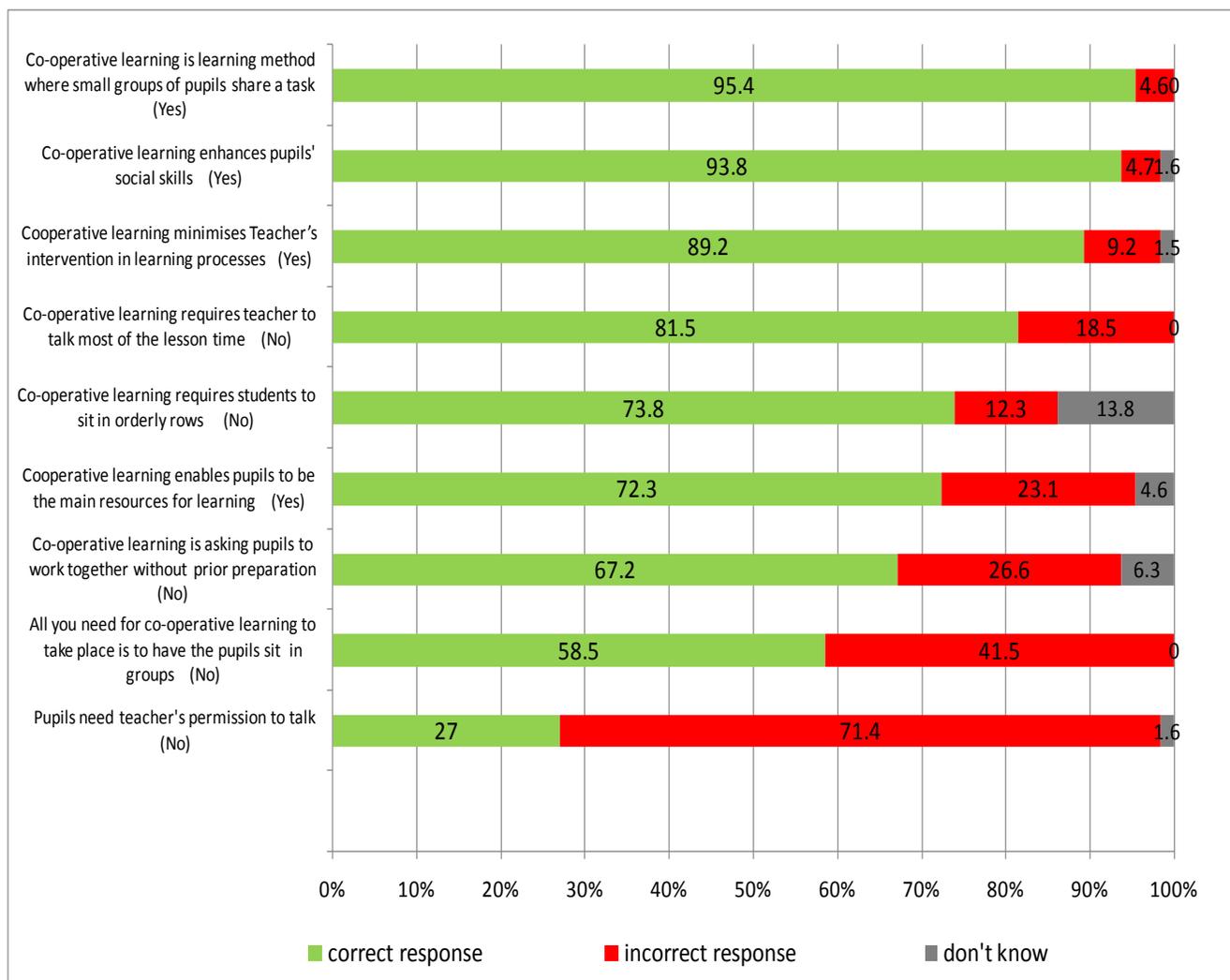
Whilst teachers were correct in thinking that pupils should sit in groups when using cooperative learning, believing that this was all that was needed for cooperative learning to be effective shows a limited understanding of cooperative learning and raises questions about how teacher were practising it; this is investigated further in Phase Two.

Prerequisites for effective implementation of cooperative learning

Literature identifies preliminary factors necessary for cooperative learning, which must be considered when developing cooperative learning approaches and when implementing cooperative learning within a classroom. These prerequisites for cooperative learning were

discussed in Chapter Two. After analysing the pioneering researchers' definitions of cooperative learning and examining them alongside various cooperative learning approaches, this research proposes the following five preliminary factors as imperative to cooperative learning: a) positive interdependence; b) individual and group accountability; c) promotive interaction; d) interpersonal and small group skills and d) group processing. The questionnaire was designed to verify teachers' awareness and understanding of these factors. Each of these five elements were operationalized in several statements to facilitate measurement.

Positive Interdependence

In Chapter Two the definition of positive interdependence as a preliminary factor for effective implementation of cooperative learning was pupils being assigned a clear task as a group goal and believing that they fail or succeed together. Three statements were highlighted in the literature review as a description of how positive interdependence is manifested in lessons in cooperative lesson.

Table 8.1: Prevalence of positive interdependence (n=65)

Statement	Percentage indicating correct response	Percentage indicating Incorrect Response	Percentage indicating Do Not Know
Pupils share the same resources and facilities	52.3 (Yes)	24.6	23.1
Pupils work in competition with each other	13.8 (No)	84.6	1.5
Cooperative learning increases competition among pupils	15.6 (No)	81.3	3.1

Only on one item was there a majority of correct responses (pupils share the same resources and facilities), indicating that teachers were not sufficiently clear about the concept of

positive interdependence and so this might not be achieved. It was particularly striking that the results show a strong belief in competition, which is contrary to the principle of positive interdependence and cooperative learning in general.

Individual and Group Accountability

Individual and group accountability was defined as the requirement that the group be responsible for achieving its aims and that each member be responsible for completing his or her part so that everyone is dependent on each other's efforts. Preliminary factors for individual and group accountability were operationalised in the questionnaire in order to find out about the prevalence of individual and group accountability as presented below in Table 8.2

Table 8.2: Individual and group accountability (n=65)

Statement	Percentage indicating correct response	Percentage indicating Incorrect Response	Percentage indicating Do Not Know
Everyone participates	92.3 (Yes)	7.7	0.00
One or two members dominate the discussion	66.2 (No)	27.7	6.2
Pupils work individually to achieve their own goals	75.4 (No)	18.5	6.2
Cooperative learning gives each pupil a specific role to accomplish within the group task	67.7 (Yes)	27.7	4.6

Participants showed a better understanding of individual and group accountability compared to 'positive interdependence'; the vast majority understood that everyone should participate, while at least two-thirds gave correct responses to the other items. However, the proportion

of incorrect responses to these items (averaging 20.4%) shows there is still a lack of understanding amongst a significant minority.

Promotive of Interaction

Promotive interaction means pupils need to work together in sharing a task to increase each other's success by contributing to the use of resources and providing assistance, support, encouragement and praise for each other's learning.

Preliminary factors for promotive interaction were operationalised in the questionnaire in order to find out about the prevalence of promotive interaction as presented below in Table 8.3.

Table 8.3 Promotive Interaction (n=65)

Statement	Percentage indicating correct response	Percentage indicating Incorrect Response	Percentage indicating Do Not Know
Pupils work as a team	98.5 (Yes)	0	1.5
Pupils provide assistance for each other's learning	93.8 (Yes)	1.5	4.6

Promotive interaction was better understood compared to other factors, with the vast majority of respondents answering correctly, on both items.

Interpersonal and Small Group Skills

Pupils need to learn group work and interpersonal skills as well as academic skills at the same time, which makes the nature of cooperative learning more complex than individualistic or competitive learning. In the literature review, this element is expected in variety of ways which were operationalised in the questionnaire in the statements shown below in Table 8.4

Table 8.4: Interpersonal and small group skills (n=65)

Statement	Percentage indicating correct response	Percentage indicating Incorrect Response	Percentage indicating Do Not Know
Pupils actively listening to each other	93.8 (Yes)	4.6	1.5
Pupils pay great attention to each other'	84.4 (Yes)	14.1	1.6

With regard to Interpersonal and Small Group Skills there was again a very high level of understanding with a majority answering correctly on both items in this theme.

Group Processing

Group processing is deemed to occur when members discuss the extent of their success in achieving their goals and the extent to which they maintained effective working relationships. In the questionnaire, group processing was operationalised in one statement as presented below in Table 8.5.

Table 8.5: Group processing (n=65)

Statement	Percentage indicating correct response	Percentage indicating Incorrect Response	Percentage indicating Do Not Know
Pupils together assess the practices that develop their cooperative learning experience	81.3 (Yes)	9.4	9.4

The percentage of correct responses was expected to be lower since the literature review suggests that this aspect is often given low priority when implementing cooperative learning. Giving the correct answer (Yes) may indicate greater likelihood of effective practice.

However, almost 10 % gave incorrect responses, and a similar percentage expressed uncertainty, so teachers' understanding of this element needs more investigation in the interviews and observations.

Attitudes towards Quantity and Quality of Cooperative Learning

Teachers were asked to rate their own understanding and the quality and quantity of cooperative learning in the teaching of Arabic language from their own perspectives, as this would shed more light on the way they understand cooperative learning, when compared against their responses in the previous tables.

Figure 8.8 and Tables 8-1 to 8-5 show many points where teachers' understanding of cooperative learning needs development, so if teachers were happy with their understanding, this would raise an issue of what excellent or above average understanding of cooperative learning actually is. However, if teachers knew their understanding was limited and rated it below average or extremely poor, this would give a direct message that teachers themselves are not satisfied with the quality of their understanding. Table 8.6 shows the results.

Table 8.6: Self-rating of understanding of cooperative learning concept (n=65)

	Frequency	Percent
Excellent	14	21.5
Above average	24	36.9
Average	16	24.6
Below average	10	15.4
Extremely poor	1	1.5
Total	65	100.0

The results show that a large majority of respondents (83.1%) rated their understanding of cooperative learning as 'average', 'above average' or 'excellent'. This would lead one to expect a much higher degree of accuracy in responding to the 21 statements. However, the previous sections revealed many instances in which a large proportion of respondents failed to understand basic principles of cooperative learning. This casts doubt on the standard of practice with regard to cooperative learning. 16.5% of respondents rated their understanding as 'below average' or 'extremely poor'. This is an understandable result, given the high levels of incorrect and 'don't know' responses to items in the previous tables. In the following sections, cross tabulation is used to further explore the relationship between self-rated understanding of cooperative learning against actual understanding as measured in the 21 questionnaire items about cooperative learning.

Teachers were also asked how they perceived the frequency of use of cooperative learning in Arabic language. This reflects their perceptions of general usage among all teachers, rather than their own personal use. Figure 8.9 shows the results.

Figure 8.9: Frequency of the use of cooperative learning in teaching Arabic language subjects in Saudi primary schools. (n=65)
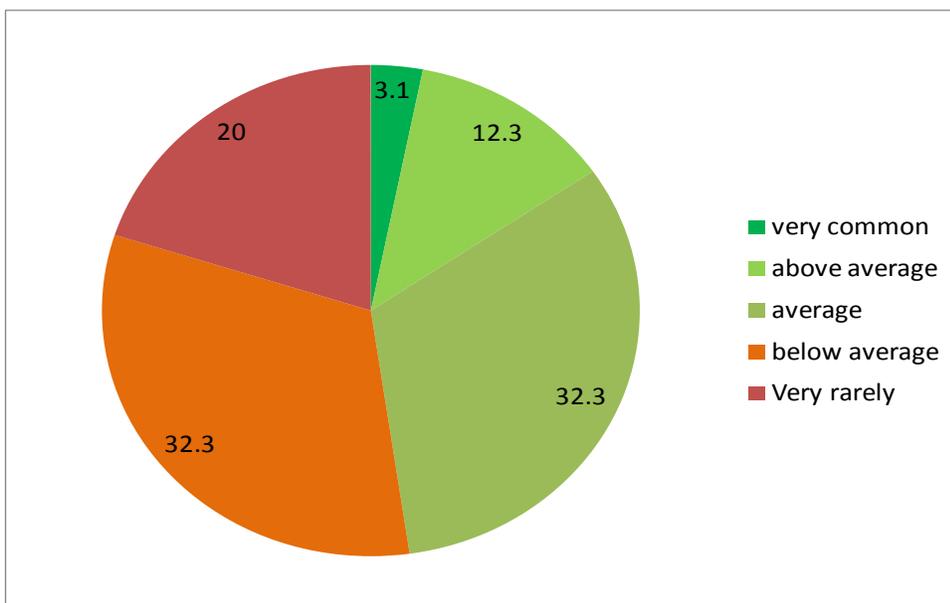
15.4% of respondents said that use of cooperative learning in teaching Arabic language subjects in Saudi primary schools was 'very common' or 'above average'. Around one third said that it was 'average' and the same proportion said that it was 'below average'. One in five respondents (20%) said that cooperative learning was very rarely used at all in teaching Arabic language subjects in Saudi primary schools. This pattern of responses indicates that cooperative learning was generally perceived as not being extensively used, supporting the view that it is a relatively recent and still developing practice in Saudi Arabia.

Teachers were also asked how they perceived the quality of cooperative learning practice in teaching Arabic in Saudi Primary schools. Figure 8.10 shows the results.

Figure 8.10: Rating the quality of cooperative learning practice in teaching Arabic language subjects in Saudi primary schools. (n=65)
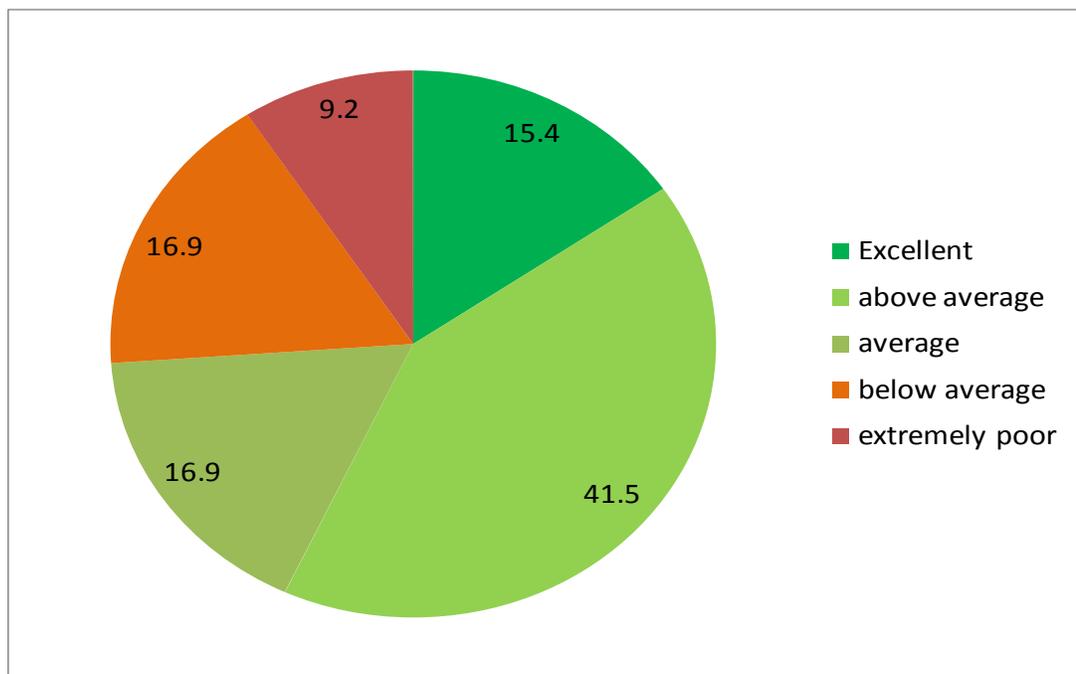
More than half of respondents (56.9%) rated the quality of cooperative learning practice in teaching Arabic language subjects in Saudi primary schools as either 'excellent' or 'above average', while a further 16.9 % rated the quality of cooperative learning as 'average'. Thus, in total, nearly three-quarters thought the quality of cooperative learning was average or

better than average. These results are consistent with teachers' earlier ratings of their own understanding of cooperative learning. Whether the quality of cooperative learning practice in reality is consistent with these positive responses will be explored in the second phase of this study, through observation of actual lessons.

The relationship of training in CL and understanding of key concepts in CL

This analysis was carried out in order to investigate whether there is a relationship between receiving training in cooperative learning and using and understanding it, and more specifically to examine the impact of training on teachers' understanding. Firstly, responses to the statements that showed weak understanding were compared. Weak understanding was defined as those items where more than 25% of respondents answered incorrectly. However, here, first, I looked at the statements with the weakest understanding to find out if teachers who had training showed understanding on this weakest point. Then, I compared training against a statement that received a moderate number of correct responses. These techniques would assist in finding if there is a difference between trained teachers and others. Table 8.7 shows the percentage of correct and incorrect responses.

Table 8.7: Percentage of correct and incorrect responses on key concepts of CL (n=65)

Statement	Correct Response	Incorrect Response	Do Not Know
Cooperative learning is learning method where small groups of pupils share a task	95.4 (Yes)	4.6	0.00%
Cooperative learning requires students to sit in orderly rows	73.8 (No)	12.3	13.8
Cooperative learning enables pupils to be the main resources for learning	72.3 (Yes)	23.1	4.6
Cooperative learning minimises Teacher's intervention in learning processes	89.2 (Yes)	9.2	1.5

Cooperative learning requires teacher to talk most of the lesson time	81.5 (No)	18.5	0.00
Cooperative learning enhances pupils' social skills	93.8 (Yes)	4.7	1.6
All you need for cooperative learning to take place is to have the pupils sit in groups	58.5 (No)	41.5	0.00
Cooperative learning is asking pupils to work together without prior preparation	67.2 (No)	26.6	6.3
Pupils need teacher's permission to talk	27.0 (No)	71.4	1.6
Pupils share the same resources and facilities	52.3 (Yes)	24.6	23.1
Pupils work in competition with each other	13.8 (No)	84.6	1.5
Cooperative learning increases competition among pupils	15.6 (No)	81.3	3.1
Everyone participates	92.3 (Yes)	7.7	0.00
One or two members dominate the discussion	66.2 (No)	27.7	6.2
Pupils work individually to achieve their own goals	75.4 (No)	18.5	6.2
Cooperative learning gives each pupil a specific role to accomplish within the group task	67.7 (Yes)	27.7	4.6
Pupils work as a team	98.5 (Yes)	0.00	1.5
Pupils provide assistance for each other's learning	93.8 (Yes)	1.5	4.6
Pupils actively listening to each other	93.8 (Yes)	4.6	1.5
Pupils pay great attention to each other'	84.4 (Yes)	14.1	1.6
Pupils together assess the practices that develop their cooperative learning experience	81.3 (Yes)	9.4	9.4

For the first technique I chose the statements: "Pupils work in competition with each other", with only 13.8 % correct response; cooperative learning increases competition among pupils with 15.6 % correct response; and "Pupils need teachers' permission to talk", with 28 % correct response. The first two are similar in meaning but were posed as a reliability check. They had similar percentages of correct answers, 13.8 % and 15.6 %, suggesting respondents interpreted them similarly and therefore I used only one of them in this crosstabulation. For the second technique, I chose the statement: 'All you need for cooperative learning to take place is to have the pupils sit in groups", which had 58.5 % of correct responses. The selected

statements were cross tabulated against training, and teachers' rating of their own understanding, the quality of training and quantity of cooperative learning practice. This would give an idea about the effect of training on their understanding and also the reality of their understanding against their own ranking of their understanding.

'Don't know' responses were excluded. Table 8.8 shows the cross-tabulation of training with the statement, ″Pupils work in competition with each other″

<div align="center">

Table 8.8: Pupils work in competition with each other * Have you obtained any training on cooperative learning Cross-tabulation

</div>

			Have you obtained any training on cooperative learning		Total
			Yes	No	
Pupils work in competition with each other	Yes	Count	18	37	55
		% within Pupils work in competition with each other	32.7%	67.3%	100.0%
		% within Have you obtained any training on cooperative learning	90.0%	84.1%	85.9%
	No	Count	2	7	9
		% within Pupils work in competition with each other	22.2%	77.8%	100.0%
		% within Have you obtained any training on cooperative learning	10.0%	15.9%	14.1%
Total		Count	20	44	64
		% within Pupils work in competition with each other	31.2%	68.8%	100.0%
		% within Have you obtained any training on cooperative learning	100.0%	100.0%	100.0%

90 % of the teachers who had been trained on cooperative learning (n=20) nevertheless showed misunderstanding of the competition issue within cooperative learning. However,

those who said they had not trained on cooperative learning (n=44) also showed weak understanding, as 84.1% of them gave an incorrect response. This suggests that the training did not improve understanding of this particular point, which calls into question the effectiveness of the training. This also reflects teachers' belief in competition in Saudi schools.

Table 8.9 shows the cross-tabulation of training with responses to ″pupils need the teacher's permission to talk.″

Table 8.9: Pupils need teacher's permission to talk * Have you obtained any training on cooperative learning Cross-tabulation

			Have you obtained any training on cooperative learning		Total
			Yes	No	
Pupils need teacher's permission to talk	Yes	Count	12	33	45
		% within Pupils need teacher's permission to talk	26.7%	73.3%	100.0%
		% within Have you obtained any training on cooperative learning	60.0%	78.6%	72.6%
	No	Count	8	9	17
		% within Pupils need teacher's permission to talk	47.1%	52.9%	100.0%
		% within Have you obtained any training on cooperative learning	40.0%	21.4%	27.4%
Total		Count	20	42	62
		% within Pupils need teacher's permission to talk	32.3%	67.7%	100.0%
		% within Have you obtained any training on cooperative learning	100.0%	100.0%	100.0%

Participants who had training (n=20) showed better understanding, with 60 % incorrect responses compared to 78.6 % for those who had not received training (''No'' is the correct response). However, the results suggest that the training was not effective, since a large majority (60 %) of the trained teachers gave an incorrect response. The apparent ineffectiveness of training in cooperative learning is further underlined when considering that the issue of teacher's permission is considered as a basic element of the way the mechanism of cooperative learning works among pupils and between them and the teacher.

Table 8.10 shows the cross-tabulation of training with responses to the item about students sitting in groups. This item had a somewhat higher percentage of correct responses, but still not very high.

Table 8.10: All you need for cooperative learning to take place is to have the pupils sit in groups * Have you obtained any training on cooperative learning Cross-tabulation

			Have you obtained any training on cooperative learning		Total
			Yes	No	
All you need for cooperative learning to take place is to have the pupils sit in groups	Yes	Count	8	19	27
		% within All you need for cooperative learning to take place is to have the pupils sets in groups	29.6%	70.4%	100.0%
		% within Have you obtained any training on cooperative learning	40.0%	42.2%	41.5%
	No	Count	12	26	38
		% within All you need for cooperative learning to take place is to have the pupils sets in groups	31.6%	68.4%	100.0%
		% within Have you obtained any training on cooperative learning	60.0%	57.8%	58.5%
Total		Count	20	45	65
		% within All you need for cooperative learning to take place is to have the pupils sets in groups	30.8%	69.2%	100.0%
		% within Have you obtained any training on cooperative learning	100.0%	100.0%	100.0%

60 % of those who had received training and 57.8% who had not trained on cooperative learning had the correct responses. This similarity of percentages would again support the view that training had little impact and would therefore raise doubts about training quality. For this reason, a further cross-tabulation was carried out between responses to the item and teachers' ranking of course quality, as shown in Table 8.11.

Table 8.11: Pupils need teacher's permission to talk * How would you rank the course? Cross-tabulation

			How would you rank the course?				Total
			Excellent	above average	average	below average	
Pupils need teacher's permission to talk	Yes	Count	3	5	3	1	12
		% within Pupils need teacher's permission to talk	25.0%	41.7%	25.0%	8.3%	100.0%
		% within How would you rank the course?	60.0%	55.6%	100.0%	33.3%	60.0%
	No	Count	2	4	0	2	8
		% within Pupils need teacher's permission to talk	25.0%	50.0%	0.0%	25.0%	100.0%
		% within How would you rank the course?	40.0%	44.4%	0.0%	66.7%	40.0%
Total		Count	5	9	3	3	20
		% within Pupils need teacher's permission to talk	25.0%	45.0%	15.0%	15.0%	100.0%
		% within How would you rank the course?	100.0%	100.0%	100.0%	100.0%	100.0%

60 % of the teachers who rated the training quality as 'excellent' had incorrect responses, while 55.6 % of teachers who rated the course 'above average' had incorrect responses.

All teachers who rated training quality as 'average' gave incorrect responses, compared with 33.3 % of teachers who rated the training as 'below average'. Given the high incidence of incorrect answers, these teachers' assessment may be considered more realistic compared to other teachers. Comparing the highest ranking category 'Excellent' responses with the lowest category 'below average' against the "need for teacher permission statement", it suggest that the teachers rating the course lower are more knowledgeable about cooperative learning and more critical of the training.

A similar cross-tabulation was carried out for the statement about pupils working in competition. The result is shown in Table 8.12.

Table 8.12: Pupils work in competition with each other * How would you rank the course? Crosstabulation

			How would you rank the course?				Total
			Excellent	above average	average	below average	
Pupils work in competition with each other	Yes	Count	5	9	2	2	18
		% within Pupils work in competition with each other	27.8%	50.0%	11.1%	11.1%	100.0%
		% within How would you rank the course?	100.0%	100.0%	66.7%	66.7%	90.0%
	No	Count	0	0	1	1	2
		% within Pupils work in competition with each other	0.0%	0.0%	50.0%	50.0%	100.0%
		% within How would you rank the course?	0.0%	0.0%	33.3%	33.3%	10.0%
Total		Count	5	9	3	3	20
		% within Pupils work in competition with each other	25.0%	45.0%	15.0%	15.0%	100.0%
		% within How would you rank the course?	100.0%	100.0%	100.0%	100.0%	100.0%

Again this table shows evidence that the lower the teachers rate the course, the better their understanding of cooperative learning, since all the teachers who rated cooperative learning training as excellent and above average gave incorrect responses to 'Pupils work in competition' (the correct answer is 'No'). Therefore, although 70% of teachers who had received training (n=20) rated the course as excellent or above average, the fact that they showed poor understanding suggests the possibility that training was poor. The same statement was cross-tabulated against teachers' rating of their understanding (Table 8.13).

Table 8.13: Pupils work in competition with each other *   How would you rank your understanding of cooperative learning concept? Cross-tabulation

			How would you rank your understanding of cooperative learning concept?					Total
			Excellent	above average	average	below average	extremely poor	
Pupils work in competition with each other	Yes	Count	13	19	16	6	1	55
		% within Pupils work in competition with each other	23.6%	34.5%	29.1%	10.9%	1.8%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	92.9%	82.6%	100.0%	60.0%	100.0%	85.9%
	No	Count	1	4	0	4	0	9
		% within Pupils work in competition with each other	11.1%	44.4%	0.0%	44.4%	0.0%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	7.1%	17.4%	0.0%	40.0%	0.0%	14.1%
Total		Count	14	23	16	10	1	64
		% within Pupils work in competition with each other	21.9%	35.9%	25.0%	15.6%	1.6%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

In this table, teachers who rated their own understanding as 'below average' showed better understanding of cooperative learning compared to those who rated themselves higher, as 40% of them had the correct responses. Their low self-rating might reflect a lack of confidence about themselves and their responses, or that they were more self-critical and aware of their limitations than teachers who rated their understanding more highly.

Table 8.14 shows a similar cross-tabulation for the item about pupils needing the teacher's permission to talk.

Table 8.14: Pupils need teacher's permission to talk *   How would you rank your understanding of cooperative learning concept? Cross-tabulation

			How would you rank your understanding of cooperative learning concept?					Total
			Excellent	above average	average	below average	extremely poor	
Pupils need teacher's permission to talk	Yes	Count	11	15	12	6	1	45
		% within Pupils need teacher's permission to talk	24.4%	33.3%	26.7%	13.3%	2.2%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	78.6%	68.2%	80.0%	60.0%	100.0%	72.6%
	No	Count	3	7	3	4	0	17
		% within Pupils need teacher's permission to talk	17.6%	41.2%	17.6%	23.5%	0.0%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	21.4%	31.8%	20.0%	40.0%	0.0%	27.4%
Total		Count	14	22	15	10	1	62
		% within Pupils need teacher's permission to talk	22.6%	35.5%	24.2%	16.1%	1.6%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The outcome supports the result in the previous table, as teachers rating their understanding below average showed better understanding of cooperative learning (with 40 % giving the correct responses) compared to those who rated their understanding more favourably.

A comparison was then carried out between teachers' self-rated understanding of cooperative learning and their self-proclaimed use of this practice. Table 8.15 shows the results.

Table 8.15: Do you use cooperative learning in your teaching of Arabic language subjects *   How would you rank your understanding of cooperative learning concept? Cross-tabulation

			How would you rank your understanding of cooperative learning concept?					Total
			Excellent	above average	average	below average	extremely poor	
Do you use cooperative learning in your teaching of Arabic language subjects	Yes	Count	12	14	12	4	0	42
		% within Do you use cooperative learning in your teaching of Arabic language subjects	28.6%	33.3%	28.6%	9.5%	0.0%	100.0%
		% within How would you rank your understanding of cooperative learning concept?	85.7%	58.3%	75.0%	40.0%	0.0%	64.6%
	No	Count	2	10	4	6	1	23
		% within Do you use cooperative learning in your teaching of Arabic language subjects	8.7%	43.5%	17.4%	26.1%	4.3%	100.0%

Total	% within How would you rank your understanding of cooperative learning concept?	14.3%	41.7%	25.0%	60.0%	100.0%	35.4%
	Count	14	24	16	10	1	65
	% within Do you use cooperative learning in your teaching of Arabic language subjects	21.5%	36.9%	24.6%	15.4%	1.5%	100.0%
	% within How would you rank your understanding of cooperative learning concept?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Teachers who rated their understanding of cooperative learning as 'below average' had the

highest rate of declared implementation of cooperative learning (60%). Teachers rating their

understanding below average not only showed better understanding of some of the weakest

points, and more accurate rating of training compared to other teachers, but also appeared to

be more frequent users of cooperative learning. This would support the hypotheses that their

self-rating might be affected by their tendency to be self-critical. Table 8.16 declared use of

cooperative learning cross tabulated by training.

Table 8.16: Do you use cooperative learning in your teaching of Arabic language subjects * Have you obtained any training on cooperative learning Cross-tabulation

			Have you obtained any training on cooperative learning		Total
			Yes	No	
Do you use cooperative learning in your teaching of Arabic language subjects	Yes	Count	18	24	42
		% within Do you use cooperative learning in your teaching of Arabic language subjects	42.9%	57.1%	100.0%
		% within Have you obtained any training on cooperative learning	90.0%	53.3%	64.6%
	No	Count	2	21	23
		% within Do you use cooperative learning in your teaching of Arabic language subjects	8.7%	91.3%	100.0%
		% within Have you obtained any training on cooperative learning	10.0%	46.7%	35.4%
Total		Count	20	45	65
		% within Do you use cooperative learning in your teaching of Arabic language subjects	30.8%	69.2%	100.0%
		% within Have you obtained any training on cooperative learning	100.0%	100.0%	100.0%

Training may have an impact on implementation of cooperative learning, since 90% of

teachers who had received training in cooperative learning (n=20) claimed that they used it,

while of those who had not been trained (n=45), only 53.3% of them claimed to use cooperative learning.

Use of cooperative learning in relation to demographic characteristics

Use of cooperative learning by age

Respondents in the 33-42 age group were most likely (45.2%) to report using cooperative learning in their teaching of Arabic language subjects out of 42 participants who claimed to use cooperative learning in their teaching. Ironically, they were also the most likely age group to claim they did not use cooperative learning (60.9%) of those 23 teachers who did not use cooperative learning. That suggests age group may not reflect a significant finding for using cooperative learning or not. Table 8.17 below shows the results.

Table 8.17 : Reported use of cooperative learning by age group (n=65) Cross tabulation

		Age				Total
		23-32	33-42	43-52	53+	
Do you use cooperativ e learning in your teaching of Arabic language subjects	Yes — Count	6	19	12	5	42
	% within Do you use cooperative learning in your teaching of Arabic language subjects	14.3%	45.2%	28.6%	11.9%	100.0%
	% within Age	75.0%	57.6%	66.7%	83.3%	64.6%
	No — Count	2	14	6	1	23
	% within Do you use cooperative learning in your teaching of Arabic language subjects	8.7%	60.9%	26.1%	4.3%	100.0%
	% within Age	25.0%	42.4%	33.3%	16.7%	35.4%
Total	Count	8	33	18	6	65
	% within Do you use cooperative learning in your teaching of Arabic language subjects	12.3%	50.8%	27.7%	9.2%	100.0%
	% within Age	100.0%	100.0%	100.0%	100.0%	100.0%

Use of cooperative learning by qualification

64.6% of teachers with Bachelor's degrees said they used cooperative learning, as did 62.5% of those with Diplomas. There is no significant relationship between qualification type and use of cooperative learning. ($x2=.579$, $df=2$, $p=.749$)

Figure 8.11 Reported use of cooperative learning by qualification (n=65)
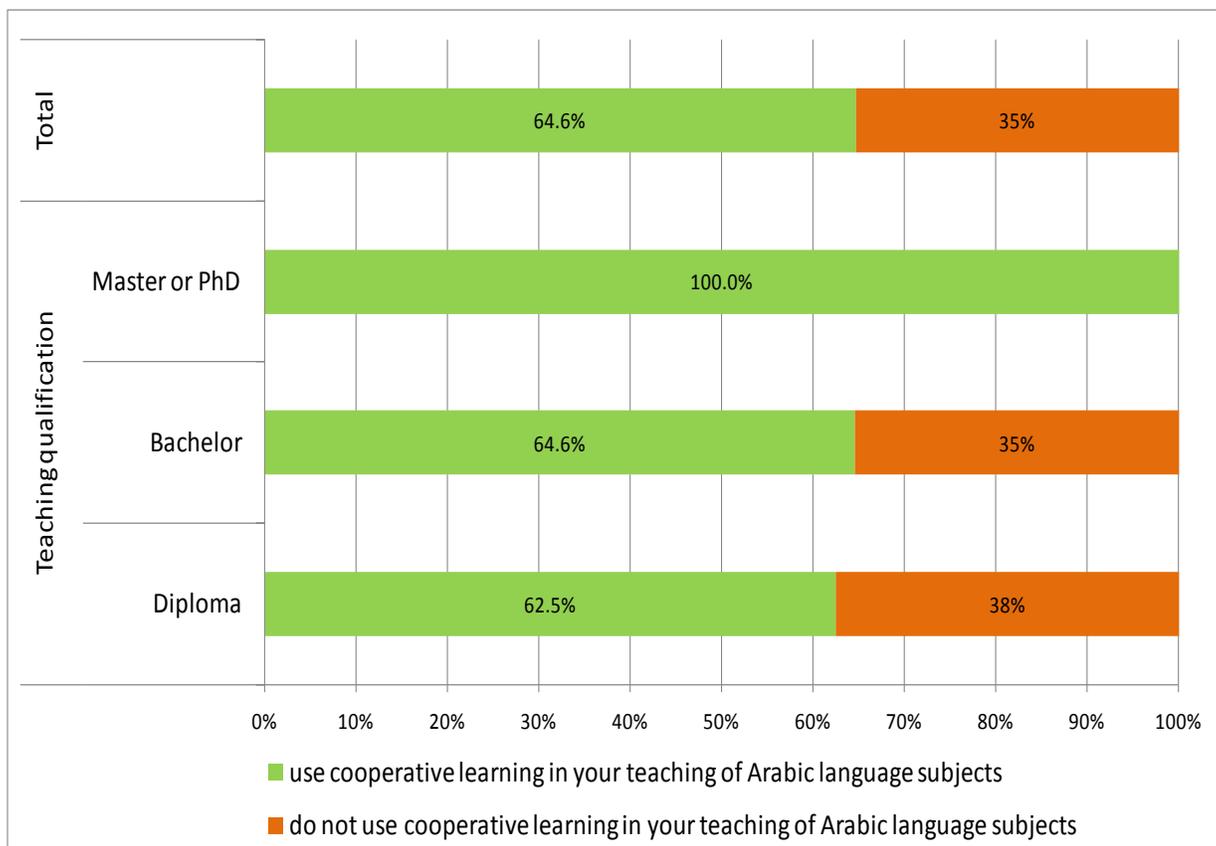
Declared use of cooperative learning with perceived use in Saudi primary schools

Overall, just 15.4 % of respondents (both users and non-users of cooperative learning) said that its use in teaching Arabic in Saudi Primary schools was 'very common' or 'above average', which is a very low percentage. 91.2 % of those who said that they 'did not use cooperative learning, rated the frequency of the use of cooperative learning as 'average and

below'. Perhaps surprisingly, 14.3 % of those who said that they used cooperative learning rated the frequency of the use of cooperative learning in Saudi schools as 'very rare'. This suggests that participants' own use of cooperative learning had little impact on their perception of its use in the Kingdom as a whole. Table 8.18 shows the results.

Table 8.18: Do you use cooperative learning in your teaching of Arabic language subjects * How frequent is the use of cooperative learning in teaching Arabic language subjects in Saudi primary schools? Crosstabulation

% within Do you use cooperative learning in your teaching of Arabic language subjects

		How frequent is the use of cooperative learning in teaching Arabic language subjects in Saudi primary schools?					Total
		very common	above average	average	below average	Very rarely	
Do you use cooperative learning in your teaching of Arabic language subjects	Yes	2.4%	16.7%	33.3%	33.3%	14.3%	100.0%
	No	4.3%	4.3%	30.4%	30.4%	30.4%	100.0%
Total		3.1%	12.3%	32.3%	32.3%	20.0%	100.0%

Recruitment of survey participants for the next phase of the research (semi-structured interviews)

Finally, users of cooperative learning were asked if they would be willing to participate in the main phase of this research, which would involve only those who used cooperative learning, Just over one in five (21.4%= 9 teachers) of those who said that they used cooperative learning in their teaching of Arabic language subjects agreed to be interviewed and observed for the purpose of the research. Six of those teachers had not had training on cooperative learning and just three had had such training. Six of them claimed to use cooperative learning 'sometimes', two teachers said 'often' and only one teacher said 'usually'. Two teachers were aged between 23-33 and also two aged 33-42, four were aged 43-52 and

only one was aged over 53. Two teachers had between 6-10 years' teaching experience and seven had more than 16 years' experience. Eight had a Bachelor's degree and one teacher had a Diploma.

I had hoped from the beginning to have five to ten participants for the main phase. In fact, nine respondents expressed willingness to participate in the main phase, which was in line with the plan.

Summary

The questionnaire survey provided a broad picture of the understanding and practice of cooperative learning by Arabic language teachers in primary schools in Alaurthiah Ashamaliah province. Sixty - five out of all 79 teachers responded to the survey. This is a good level of response, which suggests that the findings are likely to provide a representative picture of understanding and usage of cooperative learning by primary school Arabic teachers in the region and, in turn, a sound base for Phase Two of the research.

Nearly two-thirds of respondents (64.6%) said that they used cooperative learning; however, just above 69 % of them had not trained on cooperative learning at all. Thus, a large number of declared implementers of cooperative learning had never being trained on it. Nevertheless, there appeared to be some association between receiving training and using cooperative learning, since 90 % of those who had training, used cooperative learning while only 53.3 % of those who had no training, claimed to use this practice. However, both trained and untrained respondents showed misunderstandings of key aspects of cooperative learning, and there were many instances where trained teachers were just as likely as untrained teachers to give incorrect answers. Teachers generally understood that cooperative learning involves pupils working in small groups on a joint tasks, enhances pupils' social skills and reduces

teacher's interventions. However, they mistakenly saw cooperative learning as involving pupils in working in competition with each other, thought all that was needed was to sit pupils in groups, and believed pupils should talk only with the teacher's permission. The prevalence of misunderstanding about basic aspects of cooperative learning, even among teachers who had been trained on it, suggest training may be ineffective, insufficient or not kept up-to-date. It also casts doubt on whether the prerequisites for successful implementation of cooperative learning are all currently available in Arabic language teaching in Saudi primary schools. Interestingly, some teachers appeared to be aware of the limitations of their understanding and showed a propensity to be self-critical; teachers who rated their own understanding as below average showed a better understanding of cooperative learning compared to those who rated themselves higher and also had the highest rate of declared implementation of cooperative learning. Given the prevalence of misconceptions about the nature of cooperative learning and the prerequisites for effective implementation, the quality of cooperative learning practice in Arabic language teaching in Saudi primary schools may be in doubt. This suggests the need for an in-depth empirical investigation of understanding and practice in Phase Two and provides some emerging themes around which interview and observation schedules were developed for that purpose.

Chapter Nine

Phase Two, Part One: the Interviews

Introduction

This chapter presents the qualitative data obtained from interviews with teachers and supervisors. It begins with an explanation of the context in which the data were collected, then proceeds to the outcomes of thematic analysis. As noted in the Methodology chapter, the analysis was performed manually to allow close engagement with the data. In a process of frequent reading and constant comparison, interview transcripts and field notes were divided into segments of text labelled with data-driven "codes" that captured my interpretations of various elements of meaning within them.

The codes were grouped into sub-categories and then grouped into major categories. These major categories, sub-categories and codes emerged from the data. Participants expressed their subjective views, practices and experiences through all the research process, then, I, in turn, interpreted them into categories-themes and codes. There are five major categories: Characteristic of Cooperative Learning, Teacher's Role, Pupils' Role, Constraints and Facilitating Factors.

In order to give some context when referring to participating teachers and supervisors, without breaching anonymity, they are given coded designations, as follows:

a) Designation: T= Teacher, S= Education Supervisor

b) Number : Teacher= 1-7, Supervisors= 1+2

c) Context (for teachers only) =:

 Pre= pre-lesson interview

Rep= Report and discussion on video of observed lesson

Post = Post-lesson interview

Gen= General interview

For example:

"by choosing the lessons which are suitable for the application of cooperative learning" (T4
gen).

Where individual pupils are mentioned, they are given pseudonyms.

The chapter is presented in two parts. Part One introduces the context in which the qualitative data were collected, while Part Two contains an analysis of the interview data.

Part One: Introducing the context

This section gives an explanation about the specific context where this data was collected. The information is presented to reflect four levels of focus: the schools, the classrooms, the observed lessons and the participants.

The schools

The seven volunteer teachers were based in five schools. All these schools can best be described as located in rural areas. The Alaurthiah region has just been given formal authorisation from the Ministry of Interior to be regarded as a province in its own right; it used to be part of AlQunfutha Province, which with Jeddah, Allieath, and Al-Taif come under Makkah Province. The new recognition as a separate province is for a "third class" province; for education Alaurthiah is still part of AlQunfutha Education administration but for security it reports directly to Makkah instead of going through AlQunfutha as it did previously. One school could be considered as partly urban since it is in the centre and heart of Alaurthiah

province; moreover it is the only school among these five schools which has a landline telephone and the internet. However, this school serves mostly villagers, like the other four. Surprisingly, four schools were purpose-built by the Ministry of Education and only one is still using a leased building. Three of these purpose-built buildings were built in the last five years. The schools are all quite small; three have fewer than 60 pupils in the school, indeed, one of these three has fewer than 45 pupils. For this reason, it operates on what is called a reduced system, where the number of daily lessons is reduced from six to five. The other two schools have from 100-150 pupils. Two schools share the building with intermediate schools. There are two buildings which have two storeys; one is one of the combined primary and intermediate schools. Since Alaurthiah province is still educationally under AlQunfutha province and Alaurthiah is about 130 miles from AlQunfutha, teachers in three of these schools still benefited from the "remote allowance". Two of these three remote schools were served by paved roads only in the last three years, while the other is reached by a rocky road through a valley, that extends for two miles from the end of the paved road.

The catchment areas of all five schools serve families of Bedouin background. Most people still have farms and are engaged in agriculture. Most are from the low income class and very few from the middle class. Illiteracy is still prevalent, unlike the cities. Families also tend to have large numbers of children. Most people have no internet connection or even landline telephone but rely on mobiles with poor quality connection, so facilities to support learning from the Internet are poor. One of these schools and the surrounding villages were only connected to the electricity grid in the last ten years. Most teachers in these schools come from the same area or close to it, so most of them have settled there for the whole of their career. It is also unlikely that foreign pupils will be found in these schools; I did not notice any in the observed lessons. Four schools have resource rooms or libraries. However, only

one has a well- equipped resources room with a projector, screen and other up-to-date resources. All schools were named after Prophet Mohammad's companions or historical Islamic scholars.

The classroom

The classrooms in the majority of these schools were quite small, the smallest which is in the leased building being approximately 5 by 5.5 metres. The three new purpose-built schools, built in the last five years, had rooms of round 6-6.5 by 6-6.5 metres. Such small dimensions raise important questions for teachers trying to implement cooperative learning- for example lack of flexibility in seating arrangements. The old purpose-built school had larger rooms compared to the others, 7.5 by 7 metres. In the only part- urban, part-rural school, in the centre of this province, the lesson was held in a spacious resource room, 12 by 9 metres, well-equipped with a projector, TV screen, computers, large tables suitable for group seating and internet access. The only school operating in a leased building still had chalk boards, poor lighting and noisy air conditioning, while the newly-built schools had pen whiteboards. One new classroom had a projector, but it was the teacher's own projector, not fitted in the class or provided by the administration. Three classes had fewer than eight pupils in the class, three had from 10 to 17 and only one class had 21 pupils. One of the smallest classes had only seven pupils and there were two students absent from the observed lesson, so the number attending was only five. Such small class sizes would obviously have implications for group work.

The lessons

Four lessons were in grade five, two in grade six and one in grade one, suggesting a tendency to use cooperative learning with higher grades rather than lower. All the lessons were part of

the "My beautiful language" course , but the tasks varied: three were grammar tasks, one listening, one reading and writing, one poem and another lesson was the introduction to a new unit, which was general knowledge-based, on the topic, "What does the human body consist of?" Each new unit is introduced with a lesson focusing on a specific area of general knowledge to enrich pupils' understanding of the world, and is not specifically about language. All lessons were in theory of 45 minutes duration, but for three lessons it was reduced to 35-40 minutes because of preparation or because the lesson preceded an assessment, so pupils were given a few minutes to organise themselves before the assessment. The key features of the lesson contexts are summarized in Table 9.1.

Table 9.1: Context of the observed lessons

Participant	Location	Building Type	No of student in the school	Size of room	Lesson place	No of students in the class	Grade	Topic
T1	Rural	Leased building	Under 45	5 by 5	Regular classroom	7/2 absents	5	Grammar
T2	Rural	Purpose-built	Just over 100	7 by 7	Regular Classroom	17/2 absents	6	Poem
T3	Rural	Purpose-built	65	6.5 by 6	Regular Classroom	11	5	Introduction to a new unit (general knowledge)
T4	Urban/ Rural	Purpose-built	150+	11 by 9	Resources room	21	5	Listening
T5	Rural	Purpose-built	65	6.5 by 6	Regular classroom	15	1	Reading & Writing
T6	Rural	Purpose-built	63	6 by 6	Regular classroom	8	5	Grammar
T7	Rural	Leased building	Less than 45	5 by 5	Regular Classroom	7	6	Grammar

Participants

All of the participants had a BA in Arabic Language. Six of them graduated from AlQunfutha Teachers' College, which seven years ago became the University College of AlQunfutha, where I lecture on teaching methodology in general and specifically Arabic language teaching methodology. When it was a Teachers' College, one of 24 colleges at that time across the country, it was administered by The Ministry of Education and prepared students to teach in primary schools only. Later, under a change in the policy prompted by King Abdulla Bin Abdul-Aziz, who called for more universities to be established, most Teachers' Colleges became either independent universities or branches of one of the existing seven universities. AlQunfutha was one of those regions which could not have its own university, so the University College is a branch of Umm al-Qura University, whose main branch is in Makkah. Makkah is more than 300 miles from AlQunfutha but since it is the mother province, AlQunfutha was affiliated to it. Alaurthiah province was and still is in most aspects part of AlQunfutha and fully administered by Makkah. Therefore, the majority of participants had graduated from AlQunfutha Teachers' College due to its close location for the people of Alaurthiah, and also because of the province system. The one exception was a teacher who obtained his BA from the Teachers' College in Al-Taif. Three participants had gained their BA after teaching for some years with a Diploma from the Institutes of Teacher Preparation which were closed in 1989 or upgraded to Teachers' Colleges. Those three had more teaching experience than the others, as much as 25 to 29 years. The sample was well experienced in general; their teaching experience ranged from 11 years upwards.

In addition to the seven teachers, two educational supervisors were interviewed. One was just above 42 years old and the other was about to turn 40. One had 18 years' experience and the other 14 years. Both were doing higher education courses in Umm al-Qura University's main branch in Makkah. One had a MA from Umm al-Qura and was about

to finish his PhD in Arabic language, while the other was doing a Master in Arabic, Grammar and Morphology. Their offices are at the Education Office of Alaurthiah Ashamaliah, where all participating schools and teachers were administered. These two were the only two in this province who observed and supervised Arabic language teachers from all stages, primary to high school, including observing lessons, assessment and training.

Part Two: The Interviews

Interpreting the data shows five major categories: Characteristics of Cooperative Learning Teachers' role, Pupils' role, Constraints and Facilitating factors.

Characteristics of Cooperative Learning

In interviews, teachers and education supervisors identified a number of features, which they considered to be characteristic of CL, and perceived as advantages of this approach to teaching and learning. They have been grouped into three sub-categories: Learning, Personal and Interpersonal.

<u>Learning</u>

This sub-category represents perceptions of the nature of learning in a CL context.

Recall of information was identified by T4 pre*:*

> *'Cooperative learning in a new lesson relies on students' retention of information, previously covered information which as a whole contributes towards the success of cooperative learning.'*

Reference was also made to the ***wide range of information sources*** that pupils could employ, rather than relying solely on the teacher. For example, T1 suggested that

> *"Students have to …learn from different means and not being limited to the modules. Students have to draw from others … collecting information about the topic from different sources, from home family and society, for instance" (T1 pre).*

207

A number of participants indicated that CL is **goal-oriented**: Pupils' activity is intended to *"achieve a participant task"* (T3 gen), to *"reach the goals and aims of lesson that teacher wants"* (T3 gen) and *"makes the students plan to reach a mutual goal."*

A feature of CL highlighted by S2 was **peer learning**; as he expressed it, *"it is a peer-to-peer learning, and an indirect learning"*. Elaborating on what he meant by this, he explained, *"The excellent students should encourage those who are at a lower level."* The same point was frequently made by teachers also, particularly in rationalisation of their preference for heterogeneous groups, as that *"average or poor students benefit from top students"* (T1 pre).

A final point made with regard to learning was that CL promotes **successful learning**. This was well articulated by T7, who argued that when a CL lesson is going well, "students get better in quality and knowledge (T7 gen). Thus, he concluded, *"Cooperative learning is successful and leads to positive results." (T7 gen).*

Personal

The 'Personal' sub-category represents individual feelings and attitudes that CL was perceived to induce in pupils.

Some teachers reported a sense *of* **enjoyment** among pupils when practising CL. T7 , for instance, when asked about his role compared to the traditional teaching methods, shifted to talk about the attitude of pupils, He believed that *"CL is really effective. That's what I experienced, that students are really cooperating very well and they are happy with this method"* (T7 pre). Another teacher reported, *"During class, students are so thrilled to speak, cooperate and participate." (T4 post)*

In addition to being enjoyable. CL was also thought to benefit pupils psychologically. A feature that a number of participants found significant was the tendency for CL to promote pupils' **independence**, as illustrated in this example: *"Students will be able to infer the use of (inna and its sisters) on their own." (T7 pre).*

The value of cooperative learning as an effective tool to enhance students' self-dependence was also mentioned by T6 pre: *"I think the new method benefits students in that students depend on themselves for learning in the future"*.

A significant implication of pupils' independence and active participation in constructing and sharing learning, noted by several participants, was an increase in **self-confidence**. As S2 expressed it, "students find themselves". Teachers agreed. For example,

> *"CL gives students confidence to research for themselves and reach answers. It gives students the opportunity to look for the answer." (T1 pre). "Cooperative learning is a confidence booster and this will be seen during the lesson where students have confidence and talk without fear."*

(T4 pre). The latter teacher returned to this theme in a later interview, where he elaborated at length:

> *"He feels that he has a positive role… thus if a student is in a group and sees his group members speaking with ease, he starts to interact with them and speak more and experiences a positive effect". (T4 gen).*

As a result,

> *"Cooperative learning gives students confidence to stand in front of their colleagues. When a primary school student (2nd or 3rd grade) stands and speaks in front of his colleagues and gets used to that, he will not be afraid to speak with the whole school".*

It seems most of the respondents had found lack of confidence in their students in more traditional teaching contexts and therefore most of the respondents highlighted the personal development (confidence building) characteristics of CL.

The overall outcome of these effects was perceived to be an enhancement in pupils' **motivation towards learning**. This was said to be in part due to the novelty of CL: *"Most teachers use ordinary methods, so using this one will make everyone motivated" (T3 post).*

Interpersonal

This label is used to denote the kinds of relationships perceived to prevail among individuals, within and between groups, and between learners and teachers, as a result of implementing CL.

Teamwork and a high level of *interaction* were the most salient features mentioned as characteristic of cooperative learning at the interpersonal level. It was argued that cooperative learning *"is more about teamwork and students will benefit more by interacting with each other"* (T6 pre). The same teacher, in a later interview, pointed out that a student *"becomes also responsible for his colleagues in the group... each group works with high collective spirit" (T6 gen).* Such a view was supported by S2, who noted the intention, underlying CL, of promoting *"team spirit",* which he regarded as *"vital to deep-rooting the information."*

Teachers were aware of the importance of teamwork for successful lessons. T7 believed that CL is an effective strategy but required teamwork skill. He stated that *"CL is really an effective method...when students participate together and respect other's opinion."* He went further to suggest these teamwork skills *"will eventually be beneficial for all students" (T7 pre).* This teacher also emphasised teamwork for all class members, including the teacher, for effectiveness, noting the need for *"participation and interaction of the students and with them" (T7pre).*

Cooperation between class and teacher was also noted by T1 and T4. For example, T1 explained that the aims of the lesson *"will be achieved by cooperation between the class as a group and the teacher. So, if there is cooperation, the aims would be achieved."* This point is particularly relevant to characterising cooperative learning as driven by cooperation driven among all members in the class.

A number of participants additionally commented on specific aspects of interpersonal relationships among team members that are promoted by CL. It was suggested that CL is the best tool to promote peer learning because CL enhances interpersonal and ***mutual trust***: *"They got used to trust among each other, thus, when a student makes a mistake, his colleagues guide him to the right way or answer" (T1 gen).*

Another characteristic mentioned by these participants was ***mutual consideration***. One teacher mentioned that

> *"if there is feedback among students where students help one another in the group, sense a commitment to the group and consider mutual consideration, this will achieve the strategy successfully". (T3, gen).*

On the same theme, another teacher argued, *"students should be caring and altruistic to one another"* (T6 gen). A more specific example of mutual consideration in action was given by S2, who contrasted mutual consideration with what he saw as more typical pupil behaviour. Pupils needed to learn, he said, *"not to scold or rebuke each other. Arab students used to degrade and frustrate each other"*.

In view of the strong emphasis placed by participants on teamwork, it was surprising that they were equally convinced that CL promotes ***competitiveness.*** Findings show that teachers tended to believe that cooperative learning increases the competition between individuals in each group and between groups, and saw this as a positive factor enhancing learning. For example T3 pre stated, *"CL is one of the best teaching methods for a number of reasons: it creates a sense of competition in each student, each student wants to be the best member in his group."* Asked whether he saw this as positive, he replied, *"Yes, it makes students concentrate and exert more effort"*. T5 pre also supported the view that competition is an advantage of using cooperative learning: *"In CL, the spirit of competition among students is really better. The competition here has a strong effect on the lesson"*.

T6 pre also believed that cooperative learning promotes a healthy competition and cooperation among students and held that *"it's cooperation among students in the same group, to compete with other groups"*. This importance of competition in CL was further asserted by T4, who thought it promoted pupils' involvement and learning. He argued,

> *"It is so important, as encouraging groups and appreciating the winning group make learning much better. It also makes students ready to participate actively to get their group winning" (T4 post).*

211

The last code in the interpersonal sub-category reflects a perception that CL's effects extend beyond the classroom, in the development of **social skills for later life**. T4 in particular expressed the view that CL promotes essential skills for the future: *"This is a great thing for a student, to learn cooperation and teamwork, which will be a habit for him in the future" (T4 gen)*. He elaborated on how the interpersonal skill of teamwork as a characteristic of CL benefits students in other areas of life:

> *"When a group works as a team, it is evident that it is distinguished. This instils in students, especially at a young age, team spirit, interaction with colleagues… so this will help him to be an effective member of society" (T4 gen).*

Pupil role

As indicated in the Literature Review (Chapters Two and Three), CL implies a departure from the traditional model of the pupils as passive recipients of information, working mainly individually, to active participants in a collaborative co-construction of learning. Moreover, a number of pupil roles and skills were identified as necessary preliminaries for successful cooperative learning. For the purpose of this analysis, 'pupil role' encompasses all aspects of pupil attitudes, skills and behaviours expected by teachers, or reportedly displayed by pupils, whether or not these were consistent with the model presented earlier.

<u>Teacher expectations</u>

This sub-category refers to the attitudes, skills and behaviours teachers said they wanted to see in pupils during CL lessons, and which they considered necessary for the success of such lessons.

T1 and S1 both voiced an expectation that pupils would undertake some **preparation in advance** of the lesson. T1 asserted the importance of *"advance preparation of the lesson*

on the students' part (T1 post), while S1 went so far as to say, *"The one who should prepare the lesson and educational material is the student" (S1).*

An important element of such preparation, as well as of the behaviour expected of pupils during the lesson is ***searching for information***. Again, this was an expectation expressed particularly by T1 and S1. T1 in particular elaborated in this theme, saying:

> *" I tell pupils to go and look for the information required, and ... that they have to cite it, write it on paper and come to class to discuss it and explain it, then I will tell them to put it in their own portfolios" (T1 gen).*

Moreover, he emphasized the range of resources in which he expected pupils to draw for information:

> *"Pupils have to note, follow and learn from different means and not be limited to the module. Pupils have to draw from others and higher achievers assist the lower [achievers], so that they can improve themselves ..." (T1 pre).*

S1 similarly expressed the information seeking behaviour he expected of pupils in CL, highlighting the pupils' responsibility to be active creators of knowledge, rather than passive recipients:

> *"A student should create the information, rather than receiving it ... he should not only receive it from the group leader or teacher" (S1)*

Regarding behaviour in the lesson itself, T5 expressed two very basic and limited requirements-that pupils should ***be "quiet** and noise free"* and that *"all pupils' **stationery** should be ready and available with them" (T5 pre).*

In a later interview, however, T5-like all his colleagues- expressed the expectation that pupils would ***"participate"-*** the general term used by the participants to convey the more active role of pupils in CL, compared to traditional lessons (T4 gen). One teacher, however, voiced has disappointment that the level of participation by pupils on observed

lesson was not all he had hoped for: *"I was expecting more effective participation" (T2 post)*.

Teachers also voiced a number of expectations as to the forms participation might take, and particularly emphasized that it was not just a case of participating as individuals: pupils were expected to **"interact"**, with each other and with the teacher.

T3 gen was one of those who emphasized the expectation of students' interaction and active participation in CL: *"A student should be interacting and active"*. Moreover, he elaborated his view that *"It should be positive interaction among students so each student can complement the others by cooperation"*. T4 shared a similar expectation that the effectiveness of CL *"relies on interaction of students with their groups …"* (T4 gen). Expanding on the students' interactive role that he expected, T4 gen explained, *"interaction occurs when they discuss things, correct each other, when correcting wrong answers of the group members, it is great interaction"*.

CL in essence is a mutual effort by pupils and teacher; therefore, it requires a lot of interaction and cooperation from both, as described by T1 gen:

> *"It should always be cooperative interaction so that we all feel that we are cooperating and participating in the lesson, whether it is a lesson or another thing. We should be one family and everyone should perform collectively."*

Pupils were also expected to **express opinions**- *"sharing ideas and opinions together" (T7 gen)* and also to **respect others' opinions**, a point repeatedly made by T7 (pre and post) and also raised by T2 who spoke of the importance of pupils *"accepting and respecting others' points of view" (T2 gen)*.

Another commonly expressed expectation was that pupils would **practise and develop CL skills**. Pupils' responsibility and willingness to develop CL was seen as imperative in the successful implementation of CL and most of the respondents expressed such

expectations from the pupils. For example, in terms of pupils' role in CL, T4 expected that CL will be more successful

> *"when the group know how this method is applied, when students know to discuss with each other, how to nominate a colleague, when every student knows when to answer questions as some questions are directed at students with higher level and some are directed at lower level students"* *(T4 gen)*.

He went on, *"Pupils have to have the skills of … knowing the rules and the ways and behaviour to participate with their groups"*.

The same teacher returned to this point in a later interview, arguing that *"the more they practise, the more pupils will improve their weak points."*

Classroom behaviour

This sub-category represents the actual behaviour displayed by pupils in lesson, based on teachers' reports and reflections.

The most commonly reported behaviour was ***co-operation,*** seen in a variety of forms, such as sharing information, discussion, joint problem-solving and reaching consensus. T4 pre reported that *"… cooperation among students where they can have a discussion about the topic gives them better understanding and sharing information"*. The same teacher, in a subsequent interview described how the pupil's role in the group is

> *"not to answer by himself, but he asks his groups and they discuss the answer together; therefore, he uses his ability to help the group and not himself alone"* *(T4 gen)*.

In their post lesson interviews, T1, 2,5 and 7 all pointed to the level of cooperation among students as reasons for or evidence of the success of their lesson.

Nevertheless, there were also frequent instances of pupils ***working individually***. S2 commented that when he had observed lessons supposedly conducted using a CL approach, he had noticed that *"Some [pupils] were carrying out the missions alone"*.

Similar behaviour was reported by T2, who also offered an explanation for such behaviour: *"I notice during the lesson that each pupil tends to work alone because they are used to the traditional method" (T2 gen)*.

Even where pupils cooperated with their group members, such behaviour was not extended beyond this group, with evidence of groups ***competing*** to produce more or better answers, or to achieve their tasks more quickly than other groups. Again, S2 remarked on the phenomenon of competitive behaviour among pupils in lessons he had attended in his supervisory capacity, *"I noticed that the pupils refrained from passing information to other groups, and that is why there was an intense competition" (S2)*. Such behaviour was acknowledged and accepted by teachers, as in this comment: *"There are groups who are always interested in improving themselves and competing with others" (T6 gen)*.

A pupil attribute occasionally remarked on was ***leadership***. It has been noted previously that it was common practice for teachers to assign a leader to each group, or more rarely to allow their groups to choose their own leaders, and the role of group leaders was the only specific in-group role referred to by teachers. It was the teacher who was held responsible for allocating tasks, driving the group and representing the group. T3 explained how he relied on the leadership concept to achieve his objectives, saying, *" I put half of the responsibility [for the task] on the leader, and the other half on the rest of the pupils in the group" (T3 gen)*.

With a few pupils allowed and encouraged to dominate in their way, it is perhaps not surprising that a problem ***free-riding*** was sometimes reported, whereby lazy or less able pupils contributed little to the group task, being content to leave the problem-solving to their more able, active or vociferous peers. For example T2 gen expressed;

> *"Some students tend to be free riders when we use CL and you cannot always ask them to participate or make them have this sense of working with the groups."*

Another teacher, also concerned about this phenomenon, suggested that *"there could be a problem that students can write assignments for their colleagues" (T5 gen).* This was evidently a drawback of CL in the eyes of some teachers, and would certainly pose a dilemma in their efforts to reconcile CL with the education system's strong emphasis on individual assessment.

Teacher role

A large proportion of the data concerned the teacher's role, as perceived by teachers and supervisors. The large number of codes generated in relation to this category were classified into five sub-categories: facilitation, didactic, management, qualities and strategies.

In general, CL implies a tendency to shift the power from the teacher to the pupils but participants did not always show that in action, or even sometimes in their answers to the interviews. Thus, the didactic role was practised predominantly in the lessons.

<u>Facilitation</u>

Facilitation refers to the role of the teacher as an enabler, who helps students to acquire cooperative learning skills and to make their own learning discoveries.

Guiding was seen amongst the common roles that teachers should be holding in CL lessons: *"If students had any trouble, the teacher can guide them to reach the right answers" (T1 pre).*S2 also saw the teacher as a guide, rather than a direct imparter of information which, as he said, *"can be found on the internet"*. The teacher's role was to facilitate pupils' search for information by *"implant[ing] the conceptions, values and mechanisms in the students. Don't give me a fish, teach me how to fish"*.

Explaining was mentioned on several occasions. This may take the form of intervening when pupils are having difficulty. For example, the teacher will *"explain anything that is not clear for students" (T7 pre)*.

One teacher considered it was important for the teacher to *"**give opportunity**, for students to answer, speak and participate"* (T4 pre). Others took this idea further, speaking of the need for actively involving pupils to ensure their participation. For example, a suggestion was made by one teacher that *"it should not be a teacher-centred lesson. But it should activate the role of students without marginalising some of them"(T1 gen)*.

A number of teachers listed ***motivating*** pupils among their roles, albeit without going into detail, while S2 also highlighted motivation, asserting that *"the teacher must make the students love the lesson."* Teachers' motivating role was frequently linked in their responses to ***encouraging***, for example, "encouraging and motivating students to work together (T7 post); *"They [pupils] need motivating and encouragement" (T1 post)*. T5, however, highlighted encouragement as a distinct role, which he tried to perform in the observed lesson and hoped to develop further:

> *" I noticed the students' reaction was good, so in the next class I will give them a kind of encouragement and rewards.*
> *Q: Did you use encouragement today?*
> *A: Yes… but maybe next class I will encourage them more." (T5 post)*

The importance of the teacher's role in ***encouraging*** pupils was repeatedly emphasized by S2, who advised teachers to *"praise, praise and praise. [Tell pupils] excellent, well done and marvellous"*. He argued that *"praise and encouragement"* was the key to promoting pupils' interaction and insisted that *"the teacher who cannot praise will not succeed."*

A specific form of encouragement mentioned by a number of respondents was actively *promoting cooperative learning behaviour*. T4 mentioned teachers' facilitating role in CL

as encouraging them in cooperative behaviour, noting that *"maintaining interaction, participation in groups, discussion and encouraging team spirit requires more knowledge about CL" (T4 gen)*. Another teacher said, *"I encourage them to help each other" (T5 gen)* while both T5 and T6 explained the principles of cooperative behaviour at the start of the lesson (T5 Gen, T6 Gen), in order to promote the desired behaviour. According to S1, the teacher *"should teach the students the dialogue culture inside the group and how they should talk to each other."*

Didactic

The term didactic is used here to refer to a set of more directly instructional behaviours of teachers, which a number of teachers referred to as "traditional" and contrasted with the role of the teacher in CL. In interviews, teachers mentioned these roles infrequently and only briefly, without going into detail, although as will be seen in the next chapter, didactic behaviours were noted in the observed lessons.

Instructing students was said to be one of the teachers' roles (T1 pre) although the teacher concerned did not elaborate.

Teachers believe that narrating is a traditional role that should not be in CL, *"The teacher's role in traditional teaching is narrating and telling information"*, said T1 pre, contrasting teacher narrating with self-independence by pupils to reach knowledge in CL. This means teachers are aware of the change in their roles compared to the traditional.

One of the didactic elements of the teacher's role mentioned by a few respondents was ***"correcting"***. For example, according to S2, *"The teacher asks the students questions then corrects their answers."* Similarly, T7, when asked about the use of oral feedback in lesson simply responded, *"I tell them the correct answer" (T7 gen)*.

A directing role was also mentioned in passing (T3 pre), but without elaboration.

Some of the respondents described the teacher's role as ***multidimensional***, and mentioned both didactic and facilitatory roles. For example, T 5 described his role as *"a director and guide where I give students the basis and present them with examples" (T3 pre).*

Management: Managerial role

"Management" refers to a set of teacher behaviours concerned with organising elements of the lesson: the content, the classroom arrangement and the pupils themselves, in order to create and maintain the conditions in which learning took place.

Several participants pointed out the importance of ***planning*** and ***preparing*** for lessons. S1 saw planning as one of the essential requirements for successful CL, which he expected of the teachers he supervised: *"I require the teacher to do three things...: intellectual preparation of the academic material, comprehensive planning and administrative planning."* Consistent with this view, one of the observed teachers, reflecting on a lesson that he felt had gone smoothly, explained, *"Well, it's due to preparation of the lesson"* (T4 post).

T1 similarly suggested that *"one of the things that makes CL successful is pre-planning of the lesson, preparing teaching aids, preparing students..." (T1 gen).* T6 elaborated on the complexities of preparation and the work involved:

> *"Preparing the lesson requires a great deal of effort; you need to come up with questions pertaining to lesson aims, prepare pictorial content, familiarize yourself with the lesson, know the students' levels of competence" (T6 Gen).*

T1 appeared to be a particularly conscientious planner, explaining how he spent the long summer holiday preparing for the term ahead, and drawing attention to the numerous notebooks he had filled in this activity (T1, Gen)

A very different picture, however, was presented by T5, who alleged that planning and preparation were often neglected. Arguing that difficulties in lesson preparation were not an obstacle to CL, since ready-made solutions were available, he commented,

> *"... because lessons are ready prepared [a reference to the standard textbook], some teachers don't even spend time preparing the lesson and don't look at it before the lesson...it's very rare to find teachers these days who prepare lessons manually or by themselves, rather than buying ready-made preparation" (T5 gen).*

All participants agreed that on beginning the lesson, the teacher's first concern was to ***arrange groups,*** and the general preference was to have heterogeneous groups, in terms of academic ability. T1 explained that when he prepared for CL he bore in mind that 'groups have to be suitable'. He continued

> *" I mean that there is a need to divide groups equally, where the teacher should avoid having all top students in one group but ensure having heterogeneous groups, a mix of students according to their achievements." (T1 pre).*

Most teachers took the same view. It was evident that teachers had the same rationale for having mixed groups: peer assistance, so the average and poor students would benefit from top students. For example, one teacher explained,

> *"Today, I will divide them in a nearly random way, I mean without having a pre-planned set in mind. However, there must be a need to interfere to ensure you end up with heterogeneous groups and not homogenous ones, so the groups will ideally compromise students from different levels. So, I always try to balance the groups." (T4 pre).*

Similarly, T5 said he intended to divide students into three groups based upon random distribution, and explained that *"there should be students who are average and others who are good in order to work together and help each other" (T5 pre).* In practice, however, when it came to the lesson, he grouped students according to their position in the class so they would not move far, although he admitted that it would be better to have a mix of students in each group.

Both education supervisors similarly identified the heterogeneous arrangement of groups as part of the teacher's role in CL. For example, according to S1, *"The teacher's mission is administrative, such as... dividing the groups in a way that maintains variety of competence and level in each group"*. Similarly, S2 suggested that an effective teacher will *"not make the excellent students sit together, but rather, he will divide them randomly among all the columns and rows in the class..."* However, a note of criticism was interjected by S1, who was concerned that some teachers saw arranging pupils in groups as the beginning and end of CL: *"Although the teacher believes that he applies cooperative learning, he only dividing the students into groups."* Commenting on lessons he had observed, he noted that "the teacher performed his role completely, but the students were sitting in groups, and this is the only difference between him and the ordinary teacher."

After arranging heterogeneous groups, ***assigning leaders*** was another task that teachers were concerned about. T3 pre added ***naming groups*** and ***choosing a leader*** for each group amongst teacher's roles.

Not all of the participating teachers assigned leaders to groups in the observed lessons. However, in his post-lesson interview, T4 suggested that, to make his use of CL more effective in future, he would *"[choose] group representatives who can speak for their colleagues when answering questions."*

In a few cases, teachers expressed a willingness to ***delegate authority*** for certain managerial tasks to the group and/or its leader. Teachers' delegation of authority to students was, however, confined to specific tasks. T4, for example, allowed groups to pick their own name: *"In the beginning I gave them numbers, 1, 2, 3 and 4, but ...it can be their choice." (T4 post)*. T5 allowed groups to choose their own representatives. T6 delegated to group leaders the authority to distribute tasks among the group members. None of the teachers, however, allowed pupils to choose their own groups. Apart from

the rationale of ensuring an appropriate balance of ability levels, mentioned above, another rationale explained by one teacher, was that *"some of them might say they do not want to be in the same group as other students" (T1 gen).*

The above comment calls attention to another role of the teacher in relation to classroom management: ***managing conflict***. T4 was another teacher who showed a concern to address sources of tension that might disrupt the cooperative atmosphere. He explained,

> *"I may direct students to the right things so that other groups do not do it because this might cause tension within the group, I can then explain to students that such tension could affect them and their concentration" (T4 gen).*

Another potential managerial aspect of the teacher's role is ***structuring material***, although only one clear example of this was found in the interviews, perhaps because most teachers followed closely the structure given in the textbook. The exception was T1, who described how he structures material for better outcomes of CL:

> *"My way in teaching is to always keep things together, so I teach about past, present and imperative and afterwards when I reach it, I jump some lessons in order to make the lessons linked properly. I tell [pupils] that they will study it later. In this way I keep the link between them" (T1 gen).*

This is a rare example of a teacher admitting to the exercise of independent judgment to structure lessons in the way he considered most logical, to the extent of departing from the "script" imposed by the textbook.

Following on from all these preliminary discussions and arrangements came the presentation of the lesson itself. This typically began with ***briefing*** pupils about the topic to be covered and what would be expected of them during the lesson. Commenting on two examples of CL classes that he had observed in his capacity as supervisor, S1 noted that "both teachers started with an introduction to the subject." T6 reflected a similar approach when he explained, *"I give a brief overview about the lesson then we discuss*

the aims, and try to make students infer about the grammatical rules and so on" (T6 pre).
Interestingly, however, in a later interview, he expressed a recognition that briefing on the lesson topic alone was not enough; for greater success in future lessons, he indicated, it would be better to brief pupils on cooperative learning as well- a strategy employed by T5.

Managerial roles applied during the course of the lesson included **monitoring** *("following the feedback and keeping note of how far they are."- T1 gen)* and **controlling** the class. However, according to S2, the "controlling" role was one more associated with traditional classroom practice, and was modified by CL, in that control was shared, rather than resting solely in the hands of the teacher. He argued,

> *"In cooperative learning, a teacher has to sacrifice part of class control and adapt himself to the useful noise resulting from the interactions."*

Teachers might end the lesson with some form of **debriefing**. In this respect, one teacher refereed to the desirability of *"evaluating the students at the end of the lesson to make sure they've understood it" (T4 gen)*, while S2 mentioned the same point.

Qualities

This sub-category encompasses personal attributes of the teacher, which were identified by participants as necessary for successful CL.

T6 highlighted what he saw as the two key attributes of effective CL teachers, *"a creative spirit"* and the ability to "deal effectively with students" (T6 pre). The latter role, which I have called **managing teacher-pupil relations**, was explained in more detail by another teacher who suggested that

> *"if [the teacher] does not interact with [pupils] all the time, there is a possibility that pupils may focus on something marginal and not focus on the lesson; teachers should interact very well" (T4 gen).*

Both these skills might be considered conducive to a third attribute identified, which is *responsiveness*, meaning the teacher's sensitivity to the mood and understanding of pupils, and ability to adapt his teaching accordingly. An example was given by T1, who noted,

> *"Sometimes I change my method during the lesson because successful teachers are those who can change their methods. Sometimes when I use cooperative learning in class, I notice that it is not working with students, so I immediately use another one" (T1 gen).*

Another personal attribute required of teachers is *fairness*, although interestingly this code emerged only once, and in relation to a failure of this attribute, rather than to its presence. In this respect, reflecting on the difficulties he had faced in the observed CL lesson, one teacher commented on the difficulty of maintaining fairness in the attention paid to each group, and the opportunities given to them. He admitted that *"sometimes I keep focusing on a particular group, whereas I should not have. So I have to choose all groups evenly" (T5, post).*

The last of the personal qualities identified was *patience*. Teachers using CL were said to need patience in order to cope with the demands of a less strictly controlled classroom environment: *"[Teachers need] forbearance. Cooperative learning needs patience, for there is no silence; rather, we have motion." (S1)* It was also suggested that because CL is a novel teaching approach in Saudi Arabia, it will take time for pupils to learn what it requires of them, and how to interact effectively, so *"patience is important for teachers until they [pupils] become familiar with this method" (T4 pre).*

Strategies

The term strategies is used to denote a number of practical techniques employed by teachers in presenting lesson material, handling the group and assessing students' learning, in ways that they considered conducive to achieving their objectives for lessons.

One such strategy was to ensure pupils' readiness to participate in the CL lesson by ***assigning preparation*** tasks a day or more in advance. In this regard, T1 explained his practice of *"assigning students tasks to prepare before the lesson"*, *"asking every one of them to prepare a task for the next lesson"*, so they could *"[benefit] from available aids at school and home such as radio, TV…etc." (T1 gen)*. This strategy will give CL the meaning of shifting the power and centre for learning to students in all aspects, so they could approach their families to support them.

A few teachers assigned ***differentiated tasks***. Differentiation could be applied at two levels: between groups, i.e. each group has a different task; or within groups, where all groups have the same task, but different aspects of it are assigned to different group members. An example of the first (between-group) form of differentiation was T6 who, before his lesson, explained, *"I will divide the students into two groups and each group will answer specific questions" (T6 pre)*. An example of the (more common) within-group differentiation strategy was T2, who indicated, *" I prefer to give same tasks to the groups but within each group each student should have a specific task." (T2 gen)*.

One of the most common strategies used for checking and reinforcing pupils' learning was ***questioning***. Whilst in some instances groups might be invited to nominate a representative to answer questions, the usual procedure was for the teacher to call on particular pupils. The interview data provide some insight into teachers' thinking underlying this practice. T2 highlighted the need to

> *"know the strengths and weakness in the students, also, there are good students and average ones, and the teacher chooses the students to prevent average students from completely depending on good ones"* (T2 gen).

His strategy, therefore, was to call on "average" students, to prevent their hiding behind the more able members of the group. A different perspective on the use of questioning, however, was provided by T1, who was concerned that in CL, the more able students may become disaffected if they do not have sufficient opportunity to shine. He therefore made a point of directing sufficient questions to "top" students, to make them feel they are still appreciated and keep them engaged.

Another strategy used by all teachers was to ***promote competition*** between groups. For example, one teacher described how a teacher can strategically promote competition and engage students:

> *"You should convince the group that each group should depend on itself and focus on itself only, because if a group watches another, it will waste time unnecessarily and they will achieve before you"* (T3 gen).

Closely related to the promotion of competition was the ***use of rewards*** and prizes, such as sweets, balloons and the like. The use of material rewards was seen as an aid to motivating students, which teachers adopted on their own initiative and at their own expense: *"They [teachers] are so supportive, for example in terms of giving incentives and prizes from their own pockets to students, to promote cooperative learning." (T1 post)*.

When asked how he controlled and stopped pupils' behaviours when using CL, one teacher responded, *"through awarding incentives and prizes" (T3 gen)*. Indeed, one teacher was so committed to the strategy of using material rewards that he suggested the availability of prizes was an essential factor to the success of cooperative learning, and that prizes should therefore be provided by the school administration (T5 gen). The same

teacher reported that his own use of incentives and prizes was commended by his headmaster, who "praised me for that in front of the whole class." (T5 gen).

Another strategy identified as conducive to a successful lesson, in the view of some teachers, was to **vary the teaching methods** used. For example, one teacher said, *"I try to use a variety of styles and … move to use other types of teaching, not only CL"* (T2 gen). Another elaborated on the rationale for varying one's teaching methods, noting that

> *"What I want is using CL in teaching and tailoring teaching methods according to students' environment and circumstances. Sometimes a method will not succeed with some students or time is a constraint, so teachers have to adapt accordingly"* (T1 gen).

Due to CL's involvement of interaction, cooperation, performing activities and doing informal tasks, there is a chance that some pupils might get lost and not be able to get the best out of it, which highlights **the importance of reflectivity** in the CL. Some of the respondents, therefore, were found to **encourage reflection** by pupils. For example,

> *" I get them used to, after going home, revising and highlighting, underlining or circling anything that they do not understand so that we can discuss them in the class in groups"* (T1 gen).

The last strategy identified was **assessment** of pupils' attainment. It is important here to be aware that in Saudi primary schools, files are maintained in which each pupil's marks on tests throughout the school year are recorded. The outcomes inform decisions about remedial teaching and, in some cases where a pupil has not achieved a basic level of competence in certain core skills, he may be required to repeat the year. Thus, there is a strong emphasis on individual assessment. In discussing their assessment strategies, therefore, several teachers noted that although pupils were working in groups, marks were still awarded on an individual basis. T3 described use of a variety of methods in CL to assess pupils individually,

"There are tests to gauge the skills of pupils, one of them is the evaluation test, and also there are experimental tests at the end of each unit and quizzes in the middle of the unit, and there are final tests that determine the pupils' level" (T3 gen).

The same teacher also liked to assess pupils as a group and to write the group's marks on the board at the end of the lesson, but these marks did not count towards pupils' final assessment; they were *"only there to motivate pupils"*. Where group marks were awarded, it was normally in this informal way. An exception was T4, who did not give group marks, but he awarded the same individual mark to each group member, on the rationale that *"they all did well, they should all get good marks" (T4 gen)*. He confirmed that he was happy to enter these marks, which were for a listening task, in pupils' records counting towards their final assessment in listening skills and *" I see no problem with that" (T4 gen)*. This, however, was an exceptional view. The more common approach to formal assessment was, as summed up by S1, through *"exercises... handed to the teacher."*

Constraints

Teachers mentioned a number of challenges and difficulties which they thought impeded the implementation of CL, or undermined its effectiveness. All these difficulties are included within the category, "constraints". These are divided into seven main sub-categories: setting-related, resources, curriculum, pupil-related, teacher related, training/experience and social-cultural. An eighth sub-category represents the (rare) perception that there are no constraints to CL.

<u>Setting-related</u>

This sub-category represents actual or potential features of the classroom setting perceived to be not conducive to CL. A common complaint concerned ***room size***.

According to T4 *"The classroom may not be suitable for implementing this kind of learning, the setting plays an important role. Sometimes the class setting is not suitable.*

Thus it is a must to choose the right setting" (T4 pre). This teacher had the highest class size among participants with 21 pupils and was also the only teacher who implemented cooperative learning in the resource room, where a spacious room and suitable large tables and resources were available. In a later interview, he returned to the same theme, saying *"Cooperative learning requires a ready setting...because nowadays the number of students is increasing and so there is a need for a spacious classroom" (T4 gen).*

Like T4, other teachers linked the problem of room size with that of **class size**. As noted previously, class sizes were generally small, but room sizes left little scope for flexibility in arrangement of furniture. T5 was one of those who considered the interaction between room size and class size to be a constraint. He commented, *"When the number is more than 15 or 20, it is difficult to use cooperative learning; it should be less than 10 for a classroom this size"* (T5 pre). Other participants emphasized the importance of class size, irrespective of room size; for example, *"the number of pupils in the class should be reasonable, form 12 to 20" (T7 gen)*; *"a class of 20 students is different from one of 30"* (S1).

Interestingly, while the above participants focused on the idea that some classes may be too big for cooperative learning to be feasible, in practice, most teachers faced the opposite difficulty, one of very small class sizes, which meant groups might be too small to encompass a good range of ideas and aptitudes. T1 expressed the difficulty posed by a small class, especially when some members were absent:

> *"The number of pupils today was too few to form suitable groups because two pupils were absent, so I had to put two in one group and three in the other, while my plan was to put three and four" (T1 post).*

Poor infrastructure was seen as further contributing as a barrier/constraint to effective implementation of cooperative learning. As T1 mentioned, *"The problem is the majority*

of schools here are still in rented buildings, so the environment in some schools is not suitable for cooperative learning all the time" (T1 gen)

T4 made the same point, and noted regional disparities in the standard of school buildings, *"You can find a school with only a classroom, without any library, and those schools have very small classrooms, so they are not suitable for CL" (T4 gen).*

Another setting-related constraint mentioned by a number of teachers was **the time allocated** to each lesson, which they found insufficient. T4 and T5 both blamed lack of time for their failure to achieve all the intended aims of their lesson. As T5 argued, *"One session is not necessarily enough to cover the whole lesson." (T5 post).*

T2, following his reading lesson, commented, *"We need to repeat the reading and lesson time is not enough for the purpose. The lesson should be delivered in two lessons" (T2 post).* The problem was in fact related to the rigidity and intensity of the curriculum, to which I shall return later.

Resources

This sub-category reflects a set of perceptions related to the availability of resources and facilities, such as teaching aids and ICT equipment, perceived to be necessary, or at least advantageous, for implementation of CL. It was found that the availability of resources was a requirement and worrying point for teachers. For example T1 explained that the aims of his lesson would be achieved *"through the use of facilities if available" (T1 gen)*, and there was widespread agreement on the **shortage of resources** as a real constraint.

For example, T5 mentioned, *"The school has got only one projector which may not be always available as it is used by others; I need to have a projector exclusively for my class" (T5 pre).* T3 also mentioned that *"most teachers may have difficulty because of the lack of technology such as a projector" (T3 gen).* The same teacher, arguing that "we

lack advanced learning tools in this school" (T3 pre), commented that some schools in other regions were better equipped, for example with smartboards, but as far he was aware, none of the schools in the research region were so well equipped. Similarly drawing attention to such disparities, T5 observed,

> *"Frankly speaking, they [pupils] need to be provided with some learning tools...for example, a projector. Some schools... have a projector and computer installed in the room, so you just bring your flash memory and deliver the lesson. You would not bother bringing and carrying your own projector and laptop every time...and for this reason many teachers just use the traditional teaching" (T5 post).*

To some extent the problem is one of **cost**; if such equipment was not supplied by the ministry, it was difficult for small schools to finds the fund to purchase it. As one teacher indicated, *"The school is doing its best to provide only the basic things, but it can't go beyond its budget" (T3 gen).*

In other cases, schools received limited help from the Ministry, but if equipment broke down it was very difficult to get it repaired: *"Unfortunately when a piece of equipment breaks down, no one will fix it" (T1 gen).* This lack of maintenance may be due to cost, or reflect a lack of commitment from the officials.

In this situation, resource constraints were a double ***burden on teachers***, because either they struggled to work without facilitating equipment or, in an attempt to improve teaching and learning, they sometimes provided and maintained equipment at their own expense. T1, for example, spoke of teachers *"donating money"* and *"fixing what is faulty in the school"* (T1 gen). This was clearly an important issue for him, and one to which he returned repeatedly, emphasizing, *"they pay money from their own budget to improve the learning in the school"* (T1 post). T5 was another who had provided resources at his own expense, and indicated that he did not expect to be compensated for this: *"I do not think they will reimburse or refund" (T5 pre).* Given this burden on teachers, it is not surprising

232

that one teacher listed among constraints to CL, the fact that *"teachers may have financial issues" (T7 gen).*

Curriculum

It should be noted that schools in Saudi Arabia are required to follow a centrally – prescribed curriculum, with syllabuses developed by committees at the Ministry of Education. There is a structured textbook for each subject, in which the materials to be covered is divided into a number of units and lessons. The sub-category, "curriculum" here refers to aspects of this prescribed curriculum that were perceived as presenting difficulties for CL.

A strong critic of the curriculum was S1, who asserted,

> *"We are now changing only the mechanisms and not the policies, which is the core of the problem. For instance, a teacher is trained on the cooperative learning, while the curriculum, which is basically set by the ministry, is not compatible with this sort of learning" (S1)*

Teachers had a variety of objections to the curriculum. According to one teacher, the unit *design* was intrinsically *"hard to deal with"* so that *"the only suitable method is teaching to the whole class" (T2 gen).* Another complained that *"the curriculum is not well organised"* and went on to explain that *"order is required; students have to know something first if they are to understand what follows"* (T1 gen).

Several teachers were of the opinion that some topics are unsuited to cooperative learning. T3 thought that Arabic language, *"especially with regard to grammar and reading and oral communication"* did not require a high level of cooperation and interaction among pupils and was best taught by traditional methods (T3 gen). Another teacher suggested that *"lessons which require more reliance on the teacher will be more difficult to be taught using cooperative learning" (T4 pre).*

By far the most common complaint, however, concerned the *curriculum length.* Teachers felt under pressure to cover the prescribed material in the time allocated, and felt this did not allow sufficient time for pupils to search for information, draw inferences and reach consensus. T3 considered much of the information to be covered *"unnecessary" (T3 gen),* while T4 elaborated on his experience of curriculum pressure:

> *"The new curriculum... for the fourth grade [originally] contained four units. Those units were so long that I was more concerned with finishing them, without paying attention to the teaching methods. It was indeed bulky. Now it has become three units but it still needs to be shorter..." (T4 gen).*

Teachers' concerns were supported by S1, who argued,

> *"You are supposed to run a course in cooperative learning and then you are faced with a huge curriculum that cannot enable the teacher to apply cooperative learning because creating the information in cooperative learning takes a longer time" (S1).*

Indeed, he acknowledged that he himself had been unable to sustain cooperative learning under the pressure of curriculum demands. He confided:

> *"I will give you an example...I wanted to apply cooperative learning in a class. It took me two sessions to cover a single piece of information and I couldn't cover even 1 per cent of the lesson... I tried to get over it and activate [cooperative learning] but I found myself clashing with the curriculum... The curriculum was too long" (S1).*

In S1's view, therefore, it would be unrealistic to expect successful implementation of CL without a total rethink at Ministry level.

Pupil-related

'Pupil-related' constraints are a set of attributes of pupils, including personal characteristics, skill shortages and behaviours, perceived to be unconducive to CL.

Domination *is* considered as a negative behaviour and distraction from using CL: *"One of the difficulties is that one of the students want to be leading the group all the time. He wants to answer all the time" (T1 pre).* It was suggested that top students may feel neglected or unable to satisfy their inclination to seek prominence when working in

groups, and that this might make them uncooperative. T1 voiced teachers' concerns that such students *"will try to impose themselves on the groups (T1 gen).*

Distraction *was* also mentioned as a main constraint for effective cooperative learning. For example, T5 raised the problem of *"students not paying attention to the lesson because each student is facing his colleague and they are chatting and not paying attention to the lesson" (T1 pre)* which led him to conclude that *"sitting in rows will be more effective".* Another teacher raised the same concern: *"Some pupils lose their focus with the group and look at other groups, not concentrating with their group at all" (T2 post).*

A third concern was that in CL it is difficult to ensure participation of all pupils, because some have a tendency to ***passivity.*** *"Some pupils are really silent and passive and do not take part even within the group" (T6 pre).*

Another pupil-related constraint mentioned was ***pupil diversity***. As noted previously, there was no evidence of diversity in any of the classes I observed. However, it was noted by one teacher that there was diversity in the pupil population from one area to another. He noted,

> *"One of the difficulties in Saudi Arabia is the environment which differs from one area to another, for example, a pupil from Riyadh is different from a pupil from the south, a pupil from the western part differs from the northern part, we have a hugely wide environment where even society differs from one area to another" (T1 gen).*

Such diversity might raise questions about whether the same education policies and teaching methods will be equally applicable or effective in all locations.

Finally, T3 drew attention to pupils' ***lack of familiarity with CL***, which he saw as a constraint because *"sometimes you feel the pupils are not ready for such a strategy, so*

you need to prepare them ...” (T3 gen). T5 raised the same issue, which he felt was a factor in the limited success of his lesson:

> *“It was not completely a success because it was applied for the first time, and the elementary students were not familiar with it because it was a brand new experience for them”* (T5 post).

Socio-cultural factors

This sub-category refers to aspects of conditions and attitudes in pupils’ families and the local community which teachers felt were not supportive of cooperative learning. Two main factors were mentioned: **Bedouin background**, and **lack of educational awareness** in the community.

With regard to pupils of Bedouin background, it was noted that *“Bedouins... might not read or write except in school. Hence, when they go back home they do not care about their books or study” (T1 gen).* T3 believed that Bedouin pupils were disadvantaged compared to their urban counterparts, by having less educated parents, and less access to technology (T3 gen). Moreover, he commented, they are “busy outside school with grazing etc. (T3 post) Such activities might take priority over homework, or even be a reason for children being kept off school.

These social conditions in the local were area seen to be associated with a wider lack of understanding of education, so that *“students’ families are not interested in this method”* (T6 gen). Indeed, according to S2 there is a problem of *“limited awareness of ... families of the value of learning in general”,* which would limit the support schools received from parents generally. T2 suggested that part of the problem was a narrowness of outlook. He commented on:

> *“the customs of societies, especially in rural areas, and the narrowness of geographic language, because of the failure to be in contact with other cultures and customs for fear of deviation” (T2 gen).*

Teacher-related

Teacher related constraints are teacher attitudes and limitations of understanding that deter them from attempting CL, or render their efforts ineffective.

One reason given for teachers' reluctance to use CL was their **lack of conviction** as to its value. They *"do not believe in it" (T1 gen)* or *"do not believe in the feasibility of applying it to the rest of the modules" (T4 gen)*. In order to implement CL effectively it appears that the teachers should have a firm belief in its usefulness; otherwise a teacher cannot get the desired outcome in its implementation. Thus, lack of conviction about CL is also a major constraint related to teachers:

> *"In this school only very few teachers use the CL because they may have personal issues with CL....maybe teachers are not convinced of this method, they think CL is a waste of the lesson time because it requires dividing the groups" (T3 gen).*

Teachers' **lack of skills and understanding** related to CL was also noted by a number of participants. For example, it was said that some find it difficult because they *"do not prepare teacher aids...and cannot tell the [ability] levels of pupils and so cannot divide them into groups [effectively]"* (T1 gen). Another teacher mentioned *"teachers' lack of knowledge about cooperative learning" (T2 gen),* while T4 asserted that *"some teachers do not have any idea about it" (T4 gen)*. Thus, he went on to say, *"some people are not fully aware of the importance of cooperative learning and the mechanisms of applying it" (T4 gen)*.

Both supervisors agreed with these teachers. S1 suggested that due to ignorance, *"they apply it nominally but not practically",* while S2 suggested the prevalence of *"the teacher's ignorance of cooperative learning and its importance",* as a result of which *"He may think of it as a source of disturbance" (S2)*

A concern was also expressed by one teacher that ***laziness*** could induce a teacher to misapply CL, seeing it as a way to minimize his own effort: *"If the teacher was too lazy to teach, he would use cooperative learning to leave pupils to do the job alone, and in this case the school would fail"* (T1 gen).

Training and Experience

A number of teachers reported whatever training and experience they had in relation to CL, whether pre-service or in-service, and expressed a variety of views about the need for training, the nature of training, and factors influencing the ability or willingness to attend any courses that might be offered. All these aspects are subsumed under the heading, 'Training and experience'. It has been located here because teachers repeatedly cited lack of training, or poor training quality, as a major factor in their difficulties with CL. The data is presented in two sub-categories: formal training and informal training.

Formal training

This sub-category refers to any kind of pre-service or in-service training in or exposure to CL, organised by an official provider under the aegis of the Ministry of Education or (in the case of pre-service training) the Ministry of Higher Education.

When asked whether teachers were trained on cooperative learning, S2 insisted that *"The teachers are trained and qualified."* Interviews with teachers, however, revealed a very different picture.

Teachers varied in the extent to when they felt they had learned about CL in their education and training at university, although the majority view was that *"university did not offer any training courses"* (T2 gen). T4 commented, *"I recall that we used to have elective modules and one of them was about teaching people with special needs"* (T4 gen) but on being asked if he had studied CL in that module, he replied, *"No, although... I got*

some benefits from that module, I do wish that there had been modules about CL to benefit teachers…it is very important". In contrast, a limited amount of experience of CL at university was mentioned by T1 in a pre-lesson interview; he recalled a lecturer who assigned students into groups and then discussed the lecture, but no more. In fact he named two lecturers who discussed CL. He explained that the course on Arabic language teaching methods touched on CL briefly and theoretically. That experience, albeit limited, was beneficial for him, and appreciated. However, he said limitations of time, room size and number of students, not less than 35, made it impossible to implement CL practically in the university.

Moreover, T1 emphasised that there was a difference between the education and training he had received on pursuing higher qualifications, and his earlier diploma-level training. He explained,

> *"When I had the diploma, I had limited information and simple knowledge, but after I had attended university and graduated, I had more knowledge and benefited from the lectures there, so I was applying what I had already learned in the university".*

He further asserted that *"I learned more about teaching methodologies than I learned in my diploma" (T1 gen).* T3 also recalled having some exposure to CL at university, but admitted it had made little impression on him, *"We learned it at university as well and the course we took gave me good experience in CL, but I forgot about it" (T3 gen).* The implication is that due to lack of subsequent CPD and/or lack of practice of CL, T3 had not been able to consolidate his learning, so the benefit was lost.

With regard to in-service training, similarly, the prevailing view was that *"there are no training courses for teachers"* (T2 gen). Within this region, it was said, no courses on CL were run by the Office of Education. T2 and T1 reported that they had attended training workshops but *"they were not about cooperative learning specifically, but they touched on cooperative learning briefly" (T1 gen).*

Only T4 reported having attended a formal workshop in cooperative learning in the last two years, delivered by a non-specialist trainer, an Arabic language supervisor. It was two days in length and he had attended only one day. The workshop was described as a lecture, with a slideshow, followed by explanation and simple discussion. T4 was very critical of the workshop, saying it lacked proper coordination and timing. *"It was too theoretical... the coordination was really poor and the timing was not convenient. Also, the way of delivery..." (T4 gen).*

T4's comment that the limited training he had experienced was *too theoretical* was a common one, as S2 acknowledged, saying, *"All teachers complain that the courses are theoretical" (S2).* Teachers found such courses did not meet their needs, as this comment shows: *"[We need] training courses that focus on real practice" (T7 post).*

The explanation for this reported theoretical focus of training may lie in the ***inexperience of trainers***, as argued by S1, who commented: *"The ministry has a serious problem, for the training staff themselves are not qualified; they lack the experience and sufficient information to train others" (S1).*

In-service TCD courses are presented by educational supervisors, no matter whether they are specialists in this particular area or not; in most cases they are not, as explained by teachers. Furthermore, S1 explained the process whereby the ministry supplies supervisors a flash memory with some materials and PowerPoint slides. They read them first, and then they train teachers. S1 asserted that supervisors need to be trained first and also any change should be given time and preparation before being introduced into schools. He insisted it would be hard to have beneficial outcomes from any initiative if the Ministry of Education keep accelerating change without training and preparation, planning and sufficient time.

Here again, however, S2 expressed a dissenting view. He did not accept that there were any deficiencies in training, and argued that it was *"80- 90 per cent successful"*. In his

view, trainers worked hard to provide effective training but *"teachers don't appreciate that"*. He argued that *"It seems that attending the courses is a difficult matter. A teacher prefers to go to school, rather" (S2).* The impression from teachers, in contrast, was that they would be *willing to attend*, if training was of good quality, provided by suitably experienced trainers.

Informal training

Informal training denotes individual or collective initiatives carried out outside the formal framework of Ministry provision, by which teachers attempted to familiarise themselves with the principles and practice of CL, including self-study and peer-learning.

A number of teachers, as well as the supervisors, referred to **self-study**; they indicated that any knowledge that they had gleaned about CL was their *"own effort"*, motivated by a desire to expand and update their knowledge and skills in order to improve teaching quality. One of these was T4, who commented,

> *"I may say there are some teachers who implement CL but in their own way; they do it on their own, given they did not have any previous knowledge about it, yet they still do their best to improve their methods and teachings" (T4 gen).*

In a later interview, he argued that it was teachers' responsibility to try to improve their skills through self-study. As he expressed it,

> *"One of the most important things is reading about cooperative learning. Teachers have to improve themselves by reading the latest studies on cooperative learning" (T4 gen).*

S2 also asserted the responsibility of teachers for improving their practice, focusing on the role played by critical reflection: *"As a teacher, I have to document my lesson, then correct myself" (S2).*

Another way of trying to overcome the problem of unavailability or inadequacies of formal training on CL was **peer learning**, that is, consulting, observing or exchanging

ideas with colleagues. T6 was one of those who recognized the value of such experiences. He said, *"We need… to share experiences with other teachers" (T6 post).* Another teacher, T4, reported consulting colleagues to supplement his knowledge: *"I got some basic knowledge, then I relied on … asking my colleagues" (T4 post)* Indeed, this teacher, who taught in one of the large schools, which employed a number of Arabic language teachers, reported that he and his colleagues had regular meetings, two or three times a semester, to discuss important issues arising in their teaching.

Despite such commitment, however, teachers who were engaged in some form of informal learning about CL saw it as no substitute for formal training. The general view was that lack of training, both pre-service and in-service, together with inadequate quality of the limited training available, was one of the most serious constraints to implementation of CL.

No Constraints

Teachers differed in the number and nature of constraints they identified, and in the degree of emphasis they placed on them. However, only one teacher asserted that in his view, there are no constraints that may prevent the successful implementation of CL.

T7 made this point several times within the interview, although he also mentioned difficulties and so there was some inconsistency in his responses. This led me to talk about his actual practice more, as I thought his view that there were no constraints might reflect the quality of his practice and his understanding, making him think that what he was doing is all that CL entails. T7 was asked whether difficulties occurred in preparing for CL lesson, and the answer was, *'Not at all'*. Then, I referred to some issues that had been mentioned as difficulties by other participants; for example, the curriculum and syllabus. Again, he insisted that there were no constraints*: 'No, I think there are elements of CL in the syllabus, especially there are specific exercises where it is said in the*

curriculum this should be done by using cooperative learning'. In this respect, he assumed there were *'no constraints'*, simply because it is shown in the text books that some exercises should be done by using CL. Related to this point, he thought the issue of lesson suitability is not a constraint since there are lessons which are already prepared and recommended for CL. Then, I asked him about the lengthy curriculum, of which others complained. He agreed that it is lengthy, with many exercises to do, but *"that does not prevent the teacher from using CL"*. Then, after this discussion, I asked him a final closed question to confirm hiss overall view: *'There are no difficulties as you believe? He replied, 'I do not think there are'*. This conversation, however, was initiated in relation to constraints in preparation, so the teacher's answers might not apply to implementation. This may explain why he appeared to contradict himself later on. He certainly produced no argument or information that would challenge the perceptions contributed by other participants overall, "constraints" was one of the largest categories identified in the data, and a major area of concern for participants.

Facilitating Factors

A number of factors were suggested, which contributed to the success of CL, or had the potential to do so. Some of these are "mirror images" of features identified under 'Constraints', or represent the "other side of the coin". In other words, the same factor could be a constraint or a facilitator, depending on availability or quality. It should be noted that these are not the same as the 'preliminary requirements', which were relatively abstract concepts denoting attitudes, skills and behaviours needed for CL and are linked to teachers' and pupils' roles. 'Facilitating factors', in contrast, are specific features in the external environment (i.e. coming from or depending on sources other than teachers and pupils) that support CL. They are divided into five sub-categories: Setting and Resources, Support, Curriculum, Culture, and School Ethos.

Setting and Resources

Setting refers to aspects of the school and classroom setting that are (or would be, if available) conducive to successful CL implementation, such as room size and resources. As a facilitating factor, resources refers to facilities and equipment that, when available, have the potential to support CL-either directly, as a learning resource, or indirectly, through influence on pupil mood and motivation.

T5 was one of those who asserted the importance of the right setting for effective CL and summed up the requirements as "availability of learning tools and a large classrooms" (T5 pre). T1 gave a more elaborate answer, highlighting the need for *"a school building fully fitted with educational tools ... a teacher who is expert in maintaining equipment and tools, and finding the ideal environment" (T1 gen).* Most of the teachers, in fact, highlighted the importance of *resources*. For example, T5 hoped to achieve the aims of his lesson *"through the available learning tools such as computer and laptop, and using cards" (T5 pre).* He added his reasons for wanting to make use of these tools, *"It saves a lot of effort and makes students more interested in the lesson and many advantages."*

Teachers differed, however, in their perceptions of the extent to which these facilitating resources are currently available. Two teachers appeared satisfied with current provision; T2 argued that *"the school environment provides all the potential aids" (T2 gen),* while T6 thought the needed facilities were available to teachers who demonstrated commitment and effectiveness: *"Honestly if the school notice that you are teaching with a good successful style, they would support you emotionally and financially" (T6 pre).* This may seem a very optimistic view, given the general lack of resources and limitations of settings. The majority of teachers, however, found the current provision inadequate, as indicated in the section on constraints.

In this situation, a potential facilitating factor, where available, was the opportunity to *vary the location* of the lesson by taking classes outside the regular classroom. T4 was the only teacher who mentioned this factor of *"choosing the setting" (T4 gen)*; he was the only one whose school building was sufficiently well equipped to allow this possibility. He said,

> *"Normally the classroom will be a good option but usually when I change the setting and class environment, interaction increase and become better. For example in this school, when I have a CL lesson, I organize with the library or the lab so when students change the class environment and take the lesson in a different setting, the result will be better, CL is flexible where I can even deliver the lesson in interesting places like a sports centre. This will ensure better interaction because [pupils] like this place and associate it with relaxing and having fun" (T4 gen).*

This teacher's access to a well- equipped resources room may explain why, alone among the teachers, he highlighted the facilitating role of *ICT* in facilitating CL, both at the practical level as an information resource, and psychologically through its impact on pupils' attitudes. Regarding the former, he noted that *"now students can surf the internet, new technology and communication methods do help students in finding what they want"*. However, he also felt that CL was facilitated by pupils' greater willingness and confidence to participate, which he attributed to the existence and use of communications technology:

> *"Students nowadays, I think, are not shy to participate as they used to be. They become more courageous to speak up and to ask. I think that the communication technology is playing a positive role in helping students not to be shy and helps enable the success of cooperative learnings"(T4 gen).*

This was in a partly urban school, which was more developed and in the centre of the region. Where schools, and pupils' homes, did not have landline telephones or internet access, the situation would be rather different.

Support

Support refers to an appreciation, at various levels (Ministry, school, and family/community) of the value of CL and willingness to support it, materially or morally. Regarding the desired support from the ministerial level, for instance, one teacher spoke of the need for *"a trainer and monitor for teachers … support and motivation..." (T1 gen).* It was agreed that the Ministry of Education could contribute substantially to help facilitate CL implementation by providing a variety of resources. However, the provision of resources to schools was lower than at university level, according to T1: *"The Ministry of Education has greatly contributed to increase CL practice...it provided some aid, where in some schools there are learning resources and equipment" (T1 gen).* He went on to say, *"I noticed many things in university where every lecture theatre was equipped with overhead projectors and even when they broke down they would be fixed" (T1 gen).* S1 similarly noted the need for support at ministerial level, both in policy terms, and by attention to what S1 called *"the physical side of support",* such as class sizes.

At the school level, it was suggested, CL could be promoted by headteachers encouraging teachers to use a variety of teaching styles, and particularly urging them to use CL. Indeed, one teacher thought headteachers should require their staff to employ CL (T5 gen).

In addition to these layers of administrative support, three teachers alluded to the importance of support for the school's mission from the local community, particularly pupils' families. T2 noted that the family is the "cornerstone" of society and expressed concern that some families, preoccupied with trade and the like, neglected to develop their children's values. Similarly, T6 expressed the view that *"it is important that the family the family looks after their children and directs them in the right manner to benefit from their teachers and colleagues in the class" (T6 post).* In order to elicit family support, T5 suggested raising community awareness of CL through distributing leaflets and holding school open days.

<u>Curriculum</u>

Curriculum, as a facilitator, denotes features of the centrally-prescribed curriculum as a whole, or of specific topics within it, perceived as suited to CL.

One teacher thought that the move to a thematic curriculum (as opposed to the old curriculum which had separate textbooks for grammar, reading, comprehension etc.) in itself facilitated CL. He commented:

> *"The aims of the new curriculum are different from the old one. Each unit in the new curriculum has a special theme related to the environment that students live in. It is really effective and easy to follow, better than the previous one" (T3 pre).*

The majority of teachers, however, emphasised topic suitability, taking a selective approach to CL, suggesting that parts, but not all of the curriculum lent themselves to CL. One teacher said he was using CL because it was *"compatible with the lesson's content (T2 pre);* similarly, T4 said it *"suits the topic of the lesson…it is the best means suitable for this listening task" (T4 pre).*

Teachers were unable to articulate, however, what made a topic suitable or unsuitable for CL. T4's approach was simply to state the lessons in which he had used it. In the observed lesson, he was using it for a listening task; the previous week he had used it in a reading lesson. In general, he said, *"I use it for listening, reading, comprehension texts as well as for specific grammar rules and for some lessons for which students possess previous skills." (T4 gen).*

T7, in his judgment of the suitability of the curriculum for CL, relied on the guidance to teachers accompanying the textbook. He said, *"There are elements of CL in the curriculum; there are specific exercises which it is said should be done by Cooperative Learning" (T7 pre).* S1 confirmed this. Nevertheless, in his view, the presence of such recommendations did not mean the curriculum as it stands facilitates CL. In his view, it was unrealistic to expect teachers to apply CL given the length and intensity of the

curriculum, and one of his recommendations for facilitating CL was "change the curriculum". Thus, the general view was that *"preparing the curricula and developing them in accordance with the kind of learning." (T4 gen)* would be a facilitating factor for CL.

Culture

Culture, here, refers to aspects of the Saudi national culture that participants perceived as supportive of the principles underlying CL, and which could potentially be invoked in order to explain the concept and to win support for its implementation in schools.

It appeared from the data that the Saudi culture, which is shaped by its religion, Islam, can be a helpful instrument in an effective implementation of CL. Several participants cited the Quran and hadith (the sayings and actions of the Prophet) in support of this view. Both T1 and S2 quoted the Quranic injunction to *"cooperate in righteousness and piety"*. S1 similarly asserted the encouragement for cooperation in Islam, noting that *"our religion requires and arouses interest in cooperative learning through several examples."* He went on to quote the Quranic injunction to believers to *"cooperate in righteousness and piety"* (Quran, S2). Moreover, he cited the example of cooperation in the quest for knowledge between Musa (Moses) and his boy and Al Khidr, as well as that of the Prophet's companions cooperating to find the answer to a question he posed them.

Collectivism is another feature of Saudi culture conducive to CL. Not only is there a tendency to subordinate individual wishes and needs to the interest of the group (family, tribe and so on) but there is also a strong tradition of collective behaviour, both religious and secular, as T1 noted: *"... competitiveness ... is related with individuals, whereas [collectivism] is practised by many people, like in prayer, pilgrimages, fasting, and even in football" (T1 gen).*

Cultural support for cooperative learning was also pointed out by T2, who linked it to *"inherited tribal customs and traditions [and values of] honest, cooperation, philanthropy [and] altruism" (T2 gen)* which he said were encouraged by numerous scholars and preachers.

<u>School Ethos</u>

School ethos refers to the values and behaviours modelled by school staff, and encouraged among pupils, both within and outside lessons.

The prevailing view among teachers was that the school ethos is *cooperative*. T1 mentioned that *"collectiveness is more dominant because the school society is cooperative and that is embodied in the five prayers a day, the sport games, and the morning assembly" (T1 gen).* In his view, the school environment is *"always a cooperative one",* manifested in the way tasks are distributed among staff, and he asserted that without such cooperation, *"the educational process would not succeed" (T1 gen)*

All these factors, according to T1, reflect a conducive environment for the implementation of CL. S1 disagreed, however. In his view, *"the school environment is inclined to competitiveness, due to egocentrism..."* Thus, it may be that cooperative elements in the school ethos are countered or undermined by opposing tendencies.

Summary

Analysis of the interviews resulted in five major themes: Characteristics of Cooperative Learning, Teacher's Role, Pupils' Role, Constraints and Facilitating Factors. Teachers perceived CL as having emotional and psychological benefits for pupils at individual and interpersonal levels, leading to their enjoyment, confidence and self-reliance, and encouraging within-group cooperation and between-group competition, which teachers saw as beneficial and motivating.

Pupils' Role, as expressed in teachers' expectations, was to prepare for the lesson, search for information, participate and interact, expressing opinions but respecting those of others. Actual classroom behaviour reported included a mixture of cooperation and working individually, within a framework of competition. A few pupils showed leadership behaviours, but teachers were concerned about free-riding. As for teachers' own role, although they saw themselves as facilitating CL, for example by providing motivation and encouragement, they also mentioned traditional didactic roles, and they were also preoccupied with managerial roles, such as lesson preparation, arranging groups, and assessment- predominantly of individuals, group marks apparently being used as motivation but not counting towards summative assessment. Teachers espoused the need for creativity, responsiveness and fairness, which were manifested to varying degrees in their teaching strategies, including questioning, promoting competition, and varying their teaching methods.

Teachers perceived their attempts to implement CL to be inhibited by a number of constraints, including setting-related issues (small, ill-equipped classrooms), a great lack of resources in the schools, to the extent that some teachers tried to make up the deficit at their own expense, and an inflexible, centrally-prescribed curriculum that required teachers to cover pre-determined 'units' and 'lessons' within a tight timeframe. They also perceived constraints in pupils' behaviours and in socio-cultural factors, although they acknowledged that some constraints arose from teachers' own lack of conviction, skills and understanding related to CL. All these constraints were seen to be intensified by teachers' lack of training and experience in CL. Nevertheless, a number of factors were also identified which were potentially conducive to CL. Some of these, such as a conducive setting, administrative support, and facilitating elements in the curriculum were perceived as currently insufficiently available, but teachers and supervisors agreed

that the Saudi culture, rooted in Islam, favoured cooperation, and this was said to be reflected in the school ethos.

Chapter Ten

Phase Two, Part Two: Observation of Lessons

Introduction

Whereas the interview data reported in the previous chapter concerned, for the most part, teachers' general perceptions of CL, the observation data provide insights into actual practice within selected lessons, and even specific incidents within those lessons. The observations were conducted at two levels: close observation of the behaviour of one group within each class (selected by the teacher) and a more general observation of activities and dynamics in the lesson as a whole. The data presented in this section are derived from the checklist I completed during the observation (particularly in relation to Pupil Role); notes made on reviewing a video recording of each lesson, and comments on specific behaviours and practices. The codes and categories identified in the observation data correspond to some of these reported in the interview analysis and are accordingly presented under three categories: ***Teacher's Role, Pupils' Role, and Constraints.***

Teacher's Role

Data generated from observation, related to the teacher's role, fell into four of the categories identified previously: ***Managerial, Facilitation, Didactic and Strategies.***

Managerial

In the observation lessons, teachers' managerial role was manifested predominantly in a set of practices performed at the beginning of the lesson, connected with ***arranging groups*** and ***briefing*** pupils on the day's topic and/ or the behaviour required of them. A further managerial behaviour concerned controlling pupils' behaviour throughout the lesson.

With regard to *arranging groups*, the interviews had suggested a preference, at least in theory, for heterogeneous (mixed ability) groups. In practice, in the observed lessons, group composition was heterogeneous in four lessons, while the other three were homogeneous in terms of ability. T5 post explained that he did not arrange mixed groups due to time constraints, as he did not want students to waste time by moving around, so he assigned groups who were sitting near each other rather than having mixed ability groups. Although T6 obs claimed to have assigned the students according to mixed abilities, in reality the observed group seemed to have more top students than the only other group. When I commented on this, T6 acknowledged that the latter group was lower in ability than the one which had been selected to be observed. I did not see that as an issue, as I thought the setting and assigning of pupils was the teacher's responsibility. If I had asked him to divide them equally, I would not have seen how he normally arranged a class, which directly reflects the understanding of CL.

Two teachers used the strategy of naming groups. One of them assigned names to groups randomly and the other allowed each group to name their group from a selection of animal names; this might be because of the young age of the pupils, since they were Grade One. The teacher said that having a group name would give students more enthusiasm for the practice and their group. The other five teachers gave groups numbers or letters. T4 explained that he did not use names as not all students would accept the given name or they may think other groups have better ones. T1 post said it is common to name groups after the Prophet Mohammad's Companions, but as some pupils are also named after them it may cause distraction, as each student would want his name to be chosen.

In the interviews, teachers placed emphasis on assigning roles to students as part of the process of arranging groups, but in practice, in the observed lesson, this was not clearly the case. Only T1 rep stated,

We have two groups, the first one is under the leadership of Ziad and the other with Ali. At the end I will ask each pupil in each group to make sure that everyone understood the task. Okay guys, shall we start?

He did not explain what were the responsibilities of the assigned leader, let alone assign roles to others.

Following the arrangement of groups came a ***briefing***. These varied in level of detail, in some cases amounting to no more than an announcement of the assigned task. T5, for example, began the lesson without highlighting what he was expecting from pupils.

The majority of teachers seemed not aware of the need for reminding pupils of the behaviour required for cooperative learning before the lesson, or even during the lesson. However, T4 and T6 obs briefly touched on that issue. T6 rep began by saying,

"I will give questions to each group. You have to answer these questions separately then discuss with each other. You must all of you in each group understand what you are given, so I will choose one of you to see if he understands or not; it is not my responsibility. Then, we will find out which group is better and each one in that group will be awarded a gold star for winning, while the other group will be awarded a blue star for their effort".

In this way, the teacher reminded the pupils that they were expected to discuss the questions he was about to set, and that all must understand, he indicated how their understanding would be tested, and he set out a competitive framework for relations between the groups. The content of this briefing thus touches on matters that will be addressed further under 'Facilitation' and 'Strategies'.

The last managerial role identified in the observation data was ***controlling*** behaviour. Teachers generally showed a preference for a quiet, orderly classroom, and even when pupils were discussing tasks in their groups, the noise level was kept down. On one occasion in T5's lesson, while pupils were discussing their task, the teacher intervened, saying loudly, *"Do not raise your voices! Keep quiet!"*

Facilitation

The main facilitation role observed to be played by teachers was in ***encouraging cooperative behaviour.*** Such encouragement was of a simple and basic kind, consisting of instructions or reminders to pupils to discuss a topic together. T5, for example, periodically reminded pupils to consult their teammates. T4, too, gave frequent reminders of the need for cooperation and interaction with words such as *"Discuss that with each other",* or *"Help your mates"*. At one point, having asked a question about the story the class were studying, he told the pupils, *'I do not want a random answer. Discuss among yourselves in a loud voice."* He subsequently explained that he wanted group members to seek each others' opinions, especially at the beginning of the class. On another occasion he told pupils, *"I will ask questions and it is up to you to choose a student to answer, or I will be choosing."*

He said his rationale was so students would

> *be prepared and not confused when answering the questions, as they should be prepared to answer at any moment. This would make them cooperate with their groups and as a result individuals cannot influence their respective groups. He said, in fact, it is not a good thing to have a student answer the question alone but the group interaction is favourable and benefits all group members.*

Like T4, T6 was keen that group members should cooperate to ensure that everyone understood the task.

At one point, when the pupil called on was unable to answer T6's question, the teacher asked the group, *"Why did you not teach him?"* He later explained that he had chosen the weakest member of the group to emphasise that each member must understand, not only one or two in the group. In a calm voice, he shifted the question to the observed group. Each pupil was shouting, *"Me!" "Me!"* Then the teacher said, *"Does Ahmad know?"* explaining later that Ahmad was the weakest member of the group and when he raised

his hand, that would be the chance to see how the group cared about all members, not only themselves.

Another facilitating behaviour demonstrated by teachers was *explaining*; Teachers were ready to intervene if pupils were having difficulty with the assigned task. For example, T6, moving from group to group, found that one group did not understand the grammar point he had introduced earlier, so he repeated the definition and provided an example to clarify it.

Didactic

Although teachers believed they were using cooperative learning, and called upon pupils to discuss together and help each other, in practice, in observed lessons, teachers' behaviour conformed more to the traditional didactic style, in which they spent much of their time *instructing* and *directing*.

A common approach was to begin the lesson with traditional-style *instructing,* transmitting information, with pupils in a passive role. For example, T1 obs did most of the talking in his lesson. He explained a point then questioned pupils as in a traditional class; the only difference was that here they were in groups. Saying *"Please, concentrate with me, pay attention carefully here"*, the teacher carried on transmitting information. He asked general questions from time to time and pupils raised their hands and answered directly. The teacher had already written the whole exercise on the board before the lesson. Indeed, there was a general tendency among teachers to present the lesson, and expound new knowledge, then get students to work together on exercises, which required pupils to answer closed questions. T3, similarly began the lesson by talking about the main topic of the lesson and took the leading role in presenting information, rather than giving pupils the opportunity to construct knowledge; their role was confined to answering questions when the teacher reached the 'exercise' portion of the unit in the textbook.

Teachers also were observed directing pupils' participation in the lesson; it was normally the teacher who chose individuals to read or answer questions, for example. One such case was T6 who had asked the groups in his class to find examples of *"Alesm Almamdod"* in a paragraph of text. After a short time, however, he suddenly announced, *"Now we have finished the lesson"*. He summed up the lesson and asked individual pupils for their definitions, which he wrote on the board. At this point he appeared to have abandoned CL and orchestrated pupils' responses without any reference to their group discussions. Then he told pupils, *"Now, answer all the questions in your book. Can you do that by yourself?"* and allowed several minutes for them to do so, before directing pupils back to their groups and calling on one member of each group (chosen by himself) to summarise the definition and examples covered in the lesson.

Strategies

Two main strategies stood out in the observed lessons, as commonly used by the participating teachers: ***questioning*** and ***promoting competition***, the latter sometimes being accompanied by a subsidiary strategy of ***using rewards.***

Questioning, as is apparent from the above account of the didactic teaching style, was a major strategy used by teachers to direct and control pupils' participation in the lesson, and to assess their understanding of the material studied.

Whether the task preparation guaranteed each member in the group had a role, or not, it was observed that in all lessons teachers made closed questions, similar to ordinary teaching and tried to pick different students to answer each time. In other words, the task preparation was traditionally oriented, and groups were not given open-ended tasks. There were very few open questions; one example was when T4 obs asked pupils, *'What do you think about Azhar's behaviour of refusing to eat?'* In another instance, T2 obs asked pupils to describe four pictures in sentences. However, the initiative for groups to

acquire new knowledge seemed to be absent. In one case T5 even admitted that this lesson was a repeated one: *"Honestly the lesson was repeated, but there was interaction shown by the students as if it were a new lesson"*.

The use of questioning lent itself to another technique favoured by the teachers: promoting competition. Teachers set groups in competition with each other to produce the most correct answers and so be declared the *"winner",* or the *"best group"*.

A good example of the use of this strategy was seen in T1's lesson. He drew two pyramids on the board, one for group A, one for group B. He divided each into sections. When a group gave a correct answer , he shaded a section of their pyramid, starting at the bottom. The idea was to see which group reached the top of the pyramid first. He announced, *"Right now, the first group and the second get one mark towards the top of the pyramid. The one that reaches there first is the winner"*. He chose two pupils, one from each group, to come to the chalkboard and he asked them questions in competition. If one could not answer, he asked his group to answer. If they could not, he passed the question to the other group. He asked questions of pupils individually, but if they could not answer, asked another to help them. The effect in arousing competition was clearly seen. Whenever a group gained a mark, the other group tried to overtake them and win.

In T1's lesson, "winning" was its own reward, but some teachers used additional incentives. An example was T5, who set a writing task and announced that the group who wrote correctly would be rewarded with a present. As promised, he awarded small gifts (on one occasion, three balloons) to successful pupils.

Pupil Role

The observed lesson produced extensive data concerning the "classroom behaviour" sub-category which contributed to constitute the category labelled Pupil Role. Much of this data was captured in the quantitative checklist used to record my observations of the target

group in each class; the scores assigned to the groups for each of 21 behaviours taken from the literature were used to calculate an average score for each behaviour, for the seven observed lessons overall. In this section, the listed activities are arranged in rank order based on these scores, to provide an overall snapshot of the extent to which pupils did or did not display a variety of behaviours typically associated with CL. This overview is complemented by data from my notes on the video- recordings of lessons and teachers' reflections, which shed further light on the behaviours observed, including some not listed in the observation schedule.

The average scores for the activities listed in the observation schedule are shown in descending order in Table 10.1, below

Table 10.1: Prevalence of CL behaviours, expressed as numerical scores

Rank	Behaviour	Group scores	Average for all groups
1	Everyone participates	5/4/4/6/5/6/3	33/7=4.71429
2	Complete the whole task	4/5/1/7/6/5/1	29/7=4.14286
3	Everyone stays with group on task	3/3/2/4/2/4/1	19/7=2.71429
4	Active listening	3/1/2/4/2/4/2	18/7=2.57143
=4	Work as a team	2/1/1/4/5/3/1	17/7=2.57143
6	Give and ask for help from each other	2/1/1/4/4/3/1	16/7=2.28571
7	Teacher's role is minimal	1/2/1/4/3/2/1	14/7=2.0
8	Encourage each other	1/1/1/4/2/1/1	11/7=1.57143
=8	Show appreciation	1/1/1/1/4/2/1	11/7=1.57143
=8	Reach agreement together	1/0/1/2/4/2/1	11/7=1.57143
11	Plan task together	1/2/1/3/0/2/1	10/7=1.42857
=11	Teacher intervenes when needed	1/2/1/2/2/1/1	10/7=1.42857
=11	Put ideas together	1/1/1/2/2/21	10/7=1.42857
14	Review the result to assure everyone's understanding	1/0/1/1/3/2/1	9/7=1.28571
15	Reflect on progress	1/1//2/1/2/1	9/7=1.28571
=15	Summarise ideas together	1/0/1/2/2/2/1	9/7=1.28571
=15	Moderate tone of voice	1/1/1/2/2/1/1	9/7=1.28571
18	Set goals together	1/1/1/1/2/1/1	8/7=1.14285

19	Explain and say why	1/1/1/0/0/1/1	5/7=.71429
20	Use "I feel" statement	1/0/1/0/0/1/1	4/7=.57143
=20	Use group roles	1/0/1/0/0/0/1/1	4/7=.57143

Based on these average scores, the most prevalent cooperative learning activity was, "everyone participates" with a score of 4.71429. One possible explanation for this is that the teachers based their cooperative lessons on questioning students, selecting who would answer each question, after telling pupils to ensure everyone in the group knew the correct answer. They did not have open ended tasks in which I might have seen how students participated and engaged; they were questioning tasks so they told each other the correct answer in a matter of a few seconds. Thus, although everyone participated, the actual level of participation of each pupil was generally low. The second highest score was for *"Complete the whole task"*, with an average of 4.14286. This is also connected to the previous explanation, as the kind of task was easy to check and quick to finish, since there were only closed questions. *"Everyone stays with group on task"*, *"Active listening"*, *"Work as a team"*, *"Give and ask for help from each other"* and *"Teacher's role is minimal"* had scores ranging between 2 up to 2.7. The use of a moderate tone of voice was poor, since it was noticed that groups did not want other groups to hear their answer so they used very quiet voices which were not clearly audible. Teachers mostly asked the same questions to all groups, which created competition among them, which is why they did not allow other group to listen. The lowest scores were for, *"Explain and say why"*, *"Use 'I feel' statements"* and *"Use group roles"* with scores lower than 0.7 to .57.

The very low scores for the great majority of activities listed indicated very low levels of the behaviours presented in the literature as characteristic of CL situations. Indeed, it can be seen from the group scores in the third column that some behaviours were entirely

absent in several of the observed lessons. Further light on pupils' actual behaviour is provided by qualitative data from my notes and teachers' comments.

An example of *cooperative behaviour* was observed in the lesson of T6, when two group members who had finished the assigned task helped the other two who were still struggling. One in particular was having difficulty understanding the definition of the grammatical feature they were studying. His colleagues explained it to him patiently until he was able to define it and provide an example. They checked his understanding, using eye contact and providing verbal reinforcement. Where pupils worked together as a team, they took pleasure and pride in the group's success, in one case putting their hands together in a "high five" in a sense of team spirit when they succeeded in a task.

Frequently, however, pupils were seen to be *working individually*, rather than cooperating. For example, when T6 asked his class to define *'Alesm Almamdod'*, one member of the observed group, who had been given the task of writing the group's answer, completed the task quickly and told the teacher, *"I've finished"*, while other members had little input. In another instance (T7 rep) one group member simply told his classmate the answer to the teacher's question and told him to write it down, without explanation; another, working individually, directed his questions to the teacher, as in a traditional lesson, while a third was seen to be silently writing the answer without any interaction.

A student in T2's lesson shouted, *"I have finished"* without checking his teammates. Similarly, when a student made a mistake in reading a word, his teammates raised their hands to answer as in the normal class, not correcting him; then the teacher would pick one to read the word, rather than getting group members to discuss with their teammates to support him.

When a group answered their questions, the teachers did not pay attention to the fact that the other groups did not listen. Pupils in groups did not show a sense of teamwork, rather

261

they worked individually, perhaps because each pupil had his own textbook open. This also distracted them because they were checking and thinking about the next exercise while the other group were talking. This brings to mind a common feature of the group situation in the observed lessons, the absence of *resource interdependence.* Pupils did not share the same resources and facilities at all in lessons T3, T4, T5, and T7. T1, T2 and T6 included several points where students did not rely on their own textbooks; nevertheless, in their lesson, too, pupils generally had their own separate resources.

Irrespective of seating arrangements, teachers in all observed lesson required pupils to have their own work books open, so they worked individually in writing the agreed answers in their work books. This practice reduced resource interdependence, as did T2's giving each pupil in the class his own colour photocopy of a portion of the textbook. When T6 asked pupils to find five examples of a particular grammatical form from the assigned text, each pupil read in his own textbook, rather than sharing resources.

Even when pupils cooperated within their groups, this behaviour did not extend to classmates in other groups, with whom they were in *competition*. In the above-mentioned task in T6's lesson, for example, one group was having difficulty finding five examples from the text, and the teacher asked the other group to help them, but they refused because of the competition between the groups. Later in the same lesson, when the teacher was awarding stars, the competitive spirit was evident in pupils' clamouring for rewards and evident wish to assert their achievement in opposition to the rival group. Members of one group were heard to say, *"We gave the correct answer, so give us two stars",* and their teammate added, *"Three!"* The other group protested, *"What about us?"* The first group responded by pointing out where their rivals had answered incorrectly, invoking the response, *"Zip it, zip it, it's none of your business!"*

This sense of competition was one reason why pupils spoke in *quiet voices*-because they did not want to reveal their thoughts to other groups, who might take advantage of the information to 'win' a task. Another factor, as indicated in the Teacher's Role section, was some teachers' insistence on quiet during the lesson. There were exceptions, however. Although pupils generally spoke quietly, T4 asked his pupils to raise their voices, so when a pupil answered a question, his teammate told him, 'Raise your voice'. When invited to comment on this behaviour, T4 obs said,

> *"This is good thing which shows that they are following the instructions given at the beginning of the lesson, interacting and remembering and seeking an application of these things."*

Regarding the nature of discussion within the class, the predominant structure of closed questioning produced few opportunities for ***expressing opinions***. Where such an opportunity was offered, pupils displayed some difficulty, as observed in T4's lesson.

T4 had posed a question that required pupils to express opinions, but I was surprised that they made little use of this opportunity, giving brief and even one-word answers. When I asked the teacher about this later, he said that he felt it was important for pupils to voice their opinions, and indeed, with the end of the lesson approaching, he had omitted one of his intended questions in order to include that one. He thought that the limited scope of the answers reflected the youth and inexperience of the pupils, but should be seen as a starting-point in developing the skill of forming and expressing opinions. In his view, "*Giving an opinion at this stage, even if it was a very brief sentence or a word, is better than not having an opinion at all*" (T4 rep).

T4's attitude in this respect, however, was exceptional, and pupils were not often called upon to express opinions. Moreover, because, often, the assigned tasks simply required pupils to answer a closed question, it was possible for a pupil to refrain from engagement, since if called on by the teacher, he merely had to deliver the answer written down by

another group member. An example of such *free-riding* was observed in the lesson of T7, where a pupil was observed writing the answers given by another student, without any attempt to engage in or follow the reasoning leading to these answers. The teacher, however, expressed no concern about this, simply saying, *"I think it's good for good pupils to help others with correct information"* (T7 Rep).

While some pupils were content to rely on their teammates, others, in contrast, took a major role, organising their teams and dominating discussion. Such a pupil was observed in T4's lesson. He was seen to assume *leadership*, assigning roles and responsibilities to his team-mates, for example saying, *"Bilal will answer, then Ali"*. In the teacher's view, *"This is a good thing" (T4 Rep)*. There were times, however, when the boy's behaviour transcended leadership and became *dominating*; he frequently argued and imposed his opinions on the group, to such an extent that the other group members became irritated with him. When we discussed this later, the teacher commented favourably on the boy's behaviour, taking it as evidence of how CL boosts pupil's confidence; the boy, Fahad, had the confidence to stand by his opinions in the face of his team-mates' doubts. The teacher did not, however, comment on Fahad's failure to respect the opinions of his colleagues, or on the group's apparent inability to negotiate and reach a genuine consensus.

A final pupil behaviour observed (albeit rarely) was *summarising learning*. A good instance of this was seen in T1's lesson, when at the end of the lesson, the teacher set groups the task of producing what he called a "knowledge map" (T1 Rep). When asked about this task, the teacher asserted that

> *"any teacher who does not introduce the knowledge map at the end of the lesson will not achieve anything. I mean they will leave the classroom without making sure that the pupils benefited from the lesson" (T1 Rep).*

Constraints

Constraints on the successful implementation of CL were observed in two main areas or sub-categories: setting-related and pupil-related.

With regard to the setting, it was noted earlier in this chapter that the majority of classrooms, even in purpose-built schools, were very small, and even though class sizes were also small, the dimensions of the rooms limited the options for *seating arrangement.* Some students in T2's lesson had their backs to the board on which pictures were shown by projector. The teacher did not intervene, nor did pupils move themselves. In T7's lesson, it was observed that the seating arrangement (two groups sitting in line facing each other) was problematic because the pupils at one end of the line could not interact with those at the other.

Two teachers had their students sitting in two adjacent rows. This may have been because of the small room size. However, even with small rooms, since there were only 5 students in one class and 7 in the other, another arrangement, where pupils faced each other, could have been possible. T1 had all the lesson written on the chalk board, which may explain why that teacher wanted students sitting in rows to be able to see the board. The only school with a well-equipped resource room had the best arrangement, since teachers could move between tables, which were in a large square and students did not complain about the crowded tables as they did when sitting facing each other in the ordinary classroom around ordinary tables, for example (T6 obs).

The other setting-related constraint frequently noticed in the observed lessons was time, since teachers were obliged to cover blocks of material and exercises set out as "lessons" within the standard, centrally- prescribed textbook. Although these prescribed lessons incorporated some elements ostensibly to be addressed by a CL approach, in practice the

volume of material to be covered within a strict time limit gave little opportunity for the level of discussion and reflection such an approach demands.

The time constraints observed to appear in a number of lessons resulted in rushed and superficial addressing of tasks, without attention to consolidation of learning. In T2's poetry lesson, for example, he did not give the pupils time to read together and prepare themselves before being called upon to read individually. In T3's lesson "Our bodies" , the teacher rushed through the exercises accompanying the unit, extracting quick answers from pupils, without allowing time for discussion and reflection.

Two examples of the pupil-related constraints identified by teachers in interview were observed in the lesson given by T2: *distraction* and *passivity*. A source of distraction was the fact that each pupil had their own textbook, so instead of engaging with their classmates, or the teacher's debriefing, they would look ahead to the next part of the lesson. There were also pupils who remained passive and disengaged from the assigned task- explaining vocabulary. Two pupils in the observed group were simply looking at each other, and another stretching, while only two discussed the task.

Summary

The observation data were clustered around three themes which they had in common with the interview data: Teacher's role, Pupils' role, and Constraints.

Regarding Teacher's role, the observation revealed a concentration on managerial and didactic behaviours, despite some attempts at facilitation by explaining material and urging pupils to cooperate and discuss ideas together. They relied heavily on a questioning strategy, generally using closed questions taken directly from the textbook, and called on individuals to answer. They actively promoted competition, urging groups

to try to 'win' or be 'the best', and in some cases supporting the competitive strategy with material rewards.

Pupils' role was constrained by teachers' direction, and by lack of resource interdependence so, although all participated, they did so within well-defined limits, and although there were instances of cooperation, there was also a high incidence of pupils working individually. In some instances, leadership behaviour spilled over into domination, and there were cases of free-riding. Inter-group competitiveness was strongly in evidence.

Finally, examples were seen of setting-related constraints (inconvenient seating arrangements and time pressure) and of pupil-related constraints in the form of distraction and passivity.

In the next chapter, the findings from these observations, together with those from the survey and interviews, will be discussed in the light of the literature, in order to answer the research questions.

Chapter Eleven

Discussion

Introduction

The previous chapters have reported an exploration of the prevalence of CL in Saudi Arabian Arabic language teaching at primary school level, and factors influencing the extent to which and the way in which it is implemented. The outcomes from a questionnaire survey, a set of interviews with Arabic language teachers and supervisors, and observation of seven lessons purported to incorporate CL, were reported in the last three chapters. Drawing together this body of empirical evidence, in this chapter I aim to interpret the findings in the light of the literature reviewed earlier in the thesis, in order to address the six sub-questions by which the overall research question has been approached. To recapitulate, these were as follows:

1. What is cooperative learning?

2. What does the international literature say about the preliminary factors necessary to the development of cooperative learning?

3. How does the Saudi context affect the development of cooperative learning?

4. What is the prevalence of the necessary preliminary factors in the Saudi context?

5. What are the challenges to the development of these factors?

6. What facilitating factors exist to aid their development?

The first two questions were addressed in the review of the literature in chapters two and three, and the key points will be summarized only briefly here. The main purpose in doing so is to provide benchmarks for the interpretation of the Saudi practice as described by participants and as observed during my visits to the participating primary schools, in order to address questions 3-6.

Q1: What is Cooperative learning?

Cooperative learning has been defined in a variety of ways by its proponents, but definitions tend to have certain points in common, beginning with the key notion that cooperation, as defined by Argyle (1991) involves working together for common goals. According to Cohen et al. (1999) for example CL involves each person working towards the same goal and contributing what he or she can to achieve it. In a classroom context, pupils are generally divided, for this purpose, into groups- preferably heterogeneous. Indeed, the arrangement of students in groups is a key element in some definitions of CL: *"... students working together in small groups on a clearly defined task that requires the participation of everyone in the group"* (Klingner et al., 1998, p5). The various models and approaches outlined in Chapter Three propose varying numbers of group members, typically from three to seven (De Vries et al;1974;Aronson et al.1987a;Slavin et al 1986).

Nevertheless, division of pupils into groups does not in itself constitute cooperative learning, which requires also that pupils are learning and working together (Baines et al. 2003; Jolliffe, 2010). This sense of togetherness is one of the defining features of CL. It means that pupils pool knowledge and ideas (Johnson et al., 1994; Cowie and Rudduck, 1988).

Group members encourage and support each other, offering assistance and explanations as they interact together (Johnson et al., 1998). This approach is founded on a constructivist socio-cognitive epistemology (Piaget, 1949; Vygostsky, 1978), whereby knowledge is not seen as a fixed entity to be transmitted from teacher to pupil, but as constructed through the interactions of daily life (Alhodithy, 2009). As children explain things to each other, they arrive at joint understandings (Yager, 1988). Alhodithy (2009) suggests that in the process of struggling to work out what they think, students may develop a deeper and more critical understanding of curriculum content. In this process,

a balance has to be struck between interdependence and individual accountability. In other words, the group is jointly responsible for completion of the assigned task and relies on members' various contributions in order to do so; at the same time, each individual member is accountable for his or her contribution (Brody and Davidson, 1998).

In order to achieve the above, moreover, CL is, according to Slavin (1995), systematic and structured. This involves, for example, the structuring of groups in terms of the range of specific roles; and the structuring of the tasks in such a way that the combined contributions of group members, and their sharing of resources, are necessary to complete the task. The various implementation models described earlier, such as Jigsaw, Learning Together, Co-op Co-op, among others, can be seen as frameworks to facilitate such structuring.

To summarise, then, for the purpose of this research, cooperative learning is seen as:

- a systematic, structured approach to learning

- involving heterogeneous groups of pupils

- who are active in seeking and sharing information

- with the teacher more as a supervisor and organiser

- involving a variety of skills and behaviours, such as interaction, positive interdependence and group skills.

It is underpinned by values of mutuality, respect for alternative perspectives, and autonomy (Alhodithy, 2009). Further light is shed on cooperative learning as envisaged by pioneers in the field and commentators in the international literature, in the next section, which addresses in more detail the specific factors claimed to be necessary prerequisites for the successful implementation of cooperative learning.

Q2 What does the international literature say about the preliminary factors necessary to the development of cooperative learning?

From the foregoing section, it has been seen that cooperative learning is a systematic, structured approach in which learning, rather than being led by and centred on the teacher, is pupil-centred, being constructed through the collaboration of group members to accomplish a shared goal (Brody and Davidson, 1998; Siegel, 2005).

A variety of writers (Kagan, 1985; Sharan & Sharan, 1992; Brody & Davidson, 1998, 1998; Johnson and Johnson, 2003; Gillies, 2007) have identified and discussed five main preliminary factors which, they argue, are necessary in order for cooperative learning to take place. Johnson et al. (1998) assert that group work is not cooperative learning unless it includes the necessary preliminary factors, which distinguish the cooperative learning group from what they call the pseudo-learning group and the traditional classroom learning group (to which I will return in a later section).

The first preliminary factor identified is *positive interdependence*. This means the group has a shared goal; success in achieving it depends on the pooled efforts of all the members, and success or failure is determined at group, not solely individual level (Johnson & Johnson, 2003; Gillies, 2007). As Slavin (1995) notes, it is not enough to tell students to work together; they must have a reason to care about one another's achievement. Thus, no member can succeed unless all do, so the failure of one is the failure of all. This means not only must members conscientiously make their own contributions, but they must also engage with those of their colleagues, and must check that everyone understands the task and the group's solution. The group goal gives students the incentive to work together and encourage each other. According to Johnson et al. (1998), positive interdependence involves interdependence of both means and outcomes. The former includes resources (each group member has part of the resources needed to be complete the task); role

(members each have their own, complementary, roles); and task (work is divided among group members) (Alhodithy, 2009), meaning the solution of the task is the outcome of the sharing of ideas and information among all group members. Where positive interdependence does not exist, it is argued, pupils will either compete or work individually towards their own goals (Gillies, 2007).

Another prerequisite for cooperative learning, which is linked to the first one, is *individual and group accountability.* The team's success depends on the individual learning of all members (Slavin, 1995). The group is responsible for completion of the assigned task, while each individual is also responsible for his or her own part; there should be no free-riders. Thus, Gillies (2007) advocates that part of the teacher's role in a cooperative learning classroom is to check that each member has participated effectively. In addition, Alhodithy (2009) suggests that group members will themselves decide whether each member has contributed his/her fair share**.**

Writers on cooperative learning also commonly highlight as a necessary preliminary factor *promotive interaction*. In contrast to the traditional classroom where pupils' interaction with the teacher is limited and strictly controlled (usually confined to answering questions) and interaction with fellow pupils is discouraged or even forbidden, in cooperative learning, pupils are expected and encouraged to interact with each other and with the teacher. Learners promote each others' efforts to achieve group gains through their encouragement and facilitation (Alhodithy, 2009). Such interaction may take a variety of forms, including asking for help, expressing ideas, and providing assistance, support, encouragement and praise (Johnson et al., 1998).

The above-mentioned activities require pupils' possession of *interpersonal and small group skills*. As examples of such skills, Johnson et al. (1998) mention pupils' ability to befriend and trust one another, build confidence, lead, make decisions, communicate

effectively, solve conflict, and show respect for each other. Gillies (2007) suggests that necessary interpersonal skills include active listening and expressing ideas, while small group skills include, for example, taking turns, democratic decision-making, and trying to understand others' perspectives.

The fifth of the necessary preliminary factors identified in international literature is ***group processing***. This entails group members reflecting together on their success in accomplishing their tasks, the effectiveness of the strategies they have employed, and relationships with each other (Johnson et al., 1998), as well as summarising the information they have collected (Gillies, 2007). Such processing can be seen as a way of consolidating learning, and also of identifying how the group can build on its strengths, correct mistakes and overcome weaknesses in order to improve the group's functioning and so improve group outcomes in future tasks.

As noted previously, the definition of cooperative learning drawn in answering research sub-question 1, and the outline of the necessary preliminary factors for cooperative learning contained in this section, provide a benchmark against which the Saudi understanding and practice of cooperative learning can be interpreted. I shall, therefore, return to these points in a later section, in order to examine how far the Saudi practice observed in this study is consistent with or different from the way cooperative learning has been theorized and implemented in other contexts. First, however, I will turn to the third research question, which focuses on the specific and distinctive features of the Saudi context.

Q3 How does the Saudi context affect the development of cooperative learning?

In Chapter Four of this thesis, it was suggested that contextual factors, such as history and culture, may influence the way in which cooperative learning is perceived and

implemented. In particular, consideration was given to specific elements in the Saudi context, which it was assumed might influence the development of cooperative learning, and some of these were supported by findings from interviews and observations, reported in the last two chapters. These salient contextual factors fall into three main areas, namely, religious and social culture, geographic and infrastructural issues, and the highly centralized education system. Some specific features within each of these categories were identified in the interviews, in particular, as facilitating factors or constraints, and teachers (and to a lesser extent, the two educational supervisors interviewed) elaborated on how these factors affected their teaching. These more detailed evidences of the way specific contextual factors are experienced in practice in the participating schools will be addressed in more detail later, in relation to research sub-questions 5 and 6, on challenges and facilitating factors, respectively. The aim in this section is not to pre-empt such findings, but to indicate at a more general level the key sets of factors that previous writers have suggested to be salient in the Saudi context, and which have been borne out to varying degrees by the data collected in this study.

The first issue to be considered is the Saudi culture. According to Al-Gathami (2009) the key features of interest here are Islam and tribalism, features commonly remarked on by Arab scholars. Islam in particular is invariably highlighted by commentators on Saudi culture, who note that the Quran has been officially adopted as the Constitution of the Kingdom (Cameron & Cowan, 1983), and pervades every aspect of life (Aboalfaraj, 2004) including education (Motoally, 2004; Alsonble et al., 2004). The prevailing influence of Islam was, indeed, evident in this study, from the naming of schools, and even learning groups, after the Prophet Mohammad's companions, to the propensity of participants such as T1 and S2 to quote Quranic verses in support of their arguments, particularly when asked about culture.

The view of these participants was that religious influence was likely to be conducive to cooperative learning because of the Islamic emphasis on collectivism and mutual help (also noted by Alagla, 2001) and the tendency to favour group activity, consistent with the assertions of Ibn Kather (ed. Abdul-Rahman, 2009)). Only one teacher, T2, alluded to a more negative aspect of this strong culture: a lack of openness to new ideas, which he attributed to a fear of deviation. Scholars have made the same point. Alaisa (2009) and Bowen (2008) for example have remarked on Saudi Arabia's history, until relatively recently, of being closed to the outside world. This may be partly a historical accident, in that Saudi Arabia, unlike other countries in the region, never came under colonial rule (Bowen, 2008), but it may also, as Al-Sadan (2000) suggests, be attributable to a fear of new practices and innovation. As the cradle of Islam and the location of its holiest sites (Alhodithy, 2009) Saudi Arabia has always felt a keen responsibility to uphold Islamic values and protect them from erosion as a result of alien influences. Given this inherent conservatism, it seems likely that the acceptance of any new practice will depend to a great extent on the ability to demonstrate compatibility with the religious values on which Saudi society is founded.

Al-Gathami's (2009) other suggested pillar of Saudi culture, tribalism, was not explicitly mentioned by participants, although T1's comments on the prevalence of collectivism in social life may be a legacy of Saudi Arabia's historic tribal culture (Al-Gathami, 2009) as much as of Islam. It may be suggested that the tradition of authority vested in the tribal sheikh may also be seen even today in traditions of hierarchy and centralization that prevail in institutions such as the education system (a point to which I shall return later) and to a tendency towards passivity among subordinates (including, in the education context, pupils) who tend to expect guidance and instruction from those in authority.

Whilst the above-mentioned features of Saudi Arabia's religious and social culture appear to prevail nationwide, there are also, as pointed out by participants and observed during

my school visits, cultural factors that may be applicable within a specific region. T1 pointed out that there are cultural differences among the Saudi regions, which may affect the expectations of pupils and the opportunities available to them. As described in Chapter Nine of this thesis, for example, the school observation took place in a predominantly rural area, characterised by scattered villages and farms. Both T1 and T3 commented on the prevalence of Bedouin among the population in the school catchment areas. These families still live predominately by agriculture and livestock rearing and teachers commented on the implications of this for school attendance, as well as the limited support these uneducated parents were able or willing to provide for their children's schooling (see Chapter Nine and the discussion on research sub-question 5, later in this chapter).

Noting the region-specific factors prevalent around the participating schools brings me to the second key feature of the Saudi context identified from the literature and supported in this study: geographic and related infrastructural issues. Saudi Arabia has a large area with varied topography, including much challenging desert terrain (Alhamd et al., 2004).

This has posed a difficulty for the provision of infrastructure in some areas, and evidence of this was observed in the research area in the rocky track by which one school was approached in the absence of a paved road, and in the general lack of internet connection and even landline telephone service in the area. This limited infrastructure in the region would obviously have implications at many levels, from provision of training and exchange of ideas among teachers, to the information sources and facilities available to pupils. The scattered rural community, moreover, meant that schools in the region were generally small, with relatively few pupils in each class or year-group - conditions noticed in most of the schools I visited. Alhamd et al. (2004) have commented on the challenges to educational provision in remote and difficult terrain.

The Saudi government has also faced the difficulty of rapid educational expansion in a very short time, to meet the growth in demand for education since a formal system of state education was established in 1924 for boys, and in 1960 for girls (Al-Sadan, 2000). A strategy employed to achieve this exponential growth was the establishment of schools in leased buildings, originally designed for residential or other purposes (Shoaib, 2004). Although this was a temporary expediency until sufficient new schools could be built, many still remain. In 2006, more than half of the primary schools were in rented buildings (Ministry of Education, 2006; Al-Sadaawi, 2007). Such buildings have been criticized for the deficiency in quality and quantity of equipment, resources and facilities (Alhodithy, 2009). For example, attention has been drawn to the lack of rooms for specialised functions, such as libraries and laboratories (Al-Megzli, 2004; Al-Sadaawi, 2007), while Al-Yahya (2004) claims rented buildings offered 80% less space per student than purpose-built schools. There was one example of such a leased building among the schools visited. The building in question was not only small, but ill-equipped, with inadequate lighting and inefficient, noisy air-conditioning. Such conditions would be expected to affect teaching and learning- and indeed, classroom settings in this and other schools visited were observed, and reported by teachers, to pose specific difficulties for cooperative learning, as will be discussed later.

The third feature of the Saudi context identified in literature as a factor influencing, or likely to influence the way education is provided, including the development of cooperative learning, is Saudi Arabia's highly centralized education system, where policy is controlled by the Council of Ministers and Supreme Council for Education (Al-Shumaimeri, 2003; Motoally, 2004; Alsonbl et al., 2004). The curriculum for each subject is determined by the Ministry of Education and set out in a standard textbook and accompanying Teacher's book, for each level. Teachers are told what they must teach, in what order, within what time frame and are given guidance on the teaching methods to

be used (Aboalfaraj, 2004). Some exercises in the textbook used by the participating teachers, for example, were designated to be performed using CL, as T7 and S1 pointed out. Teachers were generally observed to be following the textbook closely, including using the set exercises. It was rare for a teacher to admit to or be seen departing\ from the "script" (although one teacher admitted changing the order in which he presented some grammatical concepts, as he felt the order in which they appeared in the textbook was illogical and confusing). Commentators on Saudi education have remarked on a focus on the product, rather than the process of learning (Alhodithy, 2009) with an emphasis on students' recall of subject content leading to rote-learning (Rugh, 2002; AlShumaimeri, 2003); teacher-centred, didactic teaching methods (Al-Hamid, 1996; Basamh, 2002; Alhaidari, 2006) and competition (Shoaib, 2004). These criticisms were indeed borne out by the views of the research participants, and the practices observed in the participating schools. One of the perceived advantages of CL, mentioned in interviews, for example, was that it aids recall of information; moreover the assessment practices observed and discussed with teachers suggest that pupils were essentially being assessed individually on recall of subject content, with little or no deeper questioning or task complexity that might test the ability to synthesize and apply information. As for the teacher-centred, didactic mode of teaching, this was observed to varying degrees in all the schools visited. Teachers were, to a great extent, acting as presenters of subject content and controllers of pupil participation, much as in what some of them described as the "traditional" style of teaching, as evinced in their use of questioning techniques. The educational supervisors, too, commented on the prevalence of teacher-centred teaching. This widely observed didactic mode of teaching appears at odds with the theory of CL, whereby the teacher's role is not that of direct presenter and controller of knowledge, but as a guide for pupils' explorations (Rolheiser and Anderson, 2004; Johnson and Johnson, 2008). Of particular interest is the competitive ethos alluded to by Shoaib (2004), which emerged as a major

theme running through this study. In responses to the survey conducted in the first phase of the research, for example more, than 80% of respondents expressed the views that, in a CL lesson, pupils work in competition with each other, and that CL increases competition among pupils. Such views were supported in the interview responses, where T3, T4 and T6 all identified competition as one of the interpersonal characteristics of cooperative learning and, moreover, expressed their view that this was a positive feature that enhanced pupils' engagement and learning. Observation of classroom practice, moreover, revealed that competition among pupil groups was not only prevalent, but was actively encouraged by teachers, by such means as T1's achievement pyramids, and the exhortations to teams to try to "win" or be "the best". Such behaviours suggest that competition, rather than being an inherent characteristic of CL, as teachers seemed to believe, was actually imported into their interpretation of CL by the teachers themselves, conditioned by features inherent in the Saudi education system. This tendency to value and promote competition can be seen as supporting the claims of Fish (2006) and Cohen et al. (1990) that the implementation of CL is affected by traditional paradigms or the status quo within the education system. I shall return to this issue in the next section discussing the prevalence of CL and its necessary preliminary factors, in the Saudi context.

With a lack of teacher autonomy and a supervisory system that helps to keep teachers accountable for covering the set curriculum in the allocated time, there is little incentive for teacher innovation and creativity. Teachers need flexibility to make decisions, especially in cooperative learning, where pupil empowerment suggests that unexpected needs and demands may arise, that change the teacher's plans (Brody, 1998; Brody and Nagel , 2004). In Saudi Arabia, given the strong centralization of the curriculum, and the failure to make any substantial revision of education policy since the 1980s (Albahiri, 2010, Algarfi, 2010) it is not surprising that S1 asserted the need for a complete rethinking

of policy and curriculum at Ministry level, if CL is to be effectively implemented in the kingdom.

Q4: What is the prevalence of the necessary preliminary factors in the Saudi context?

Before discussing the prevalence of individual factors identified in the literature as necessary for effective implementation of CL, it may be worth looking at participants' perceptions of the prevalence of CL in general. In a previous study by Alhodithy (2009), the prevalence of CL was said to be low, with the lecture method of teaching dominant even among teachers who expressed interest in CL. In this study, almost 65% of teachers surveyed in the first phase of the study claimed to use CL; however, few said they did so frequently (Fig 8.7), and only 15% thought use of CL was common (Fig 8.10). The low frequency of use reported by the majority of claimed implementers, together with the fact that a third of respondents reported not using CL at all, give a general impression that prevalence of CL is low. This view was supported by the teachers and supervisors interviewed who, irrespective of their own practice, perceived CL to be rarely implemented in the region as a whole, a situation which they attributed to such factors as teachers' lack of understanding of the CL approach (a topic to which I shall return in a later section). In the literature, too, prevalence of CL in some education systems has been described as low, a situation which some commentators have attributed to the enduring strength of traditional paradigms (Fish, 2006) that are not supportive of a CL approach. It has already been suggested, in addressing question 3, that features of the Saudi education system, such as rigid hierarchy, centralization, and lack of teacher autonomy, reported by critics, may inhibit CL implementation and tend to promote non-CL behaviours, such as didactic, teacher-centred teaching, and the criticisms raised by previous scholars such as Al-Sadan (2000) and Shoaib (2004) were to some extent borne

out in the observations of this study, both in the practices observed in lessons, and in S1's criticisms of national education policy.

Given these factors it is perhaps surprising that such a large proportion of survey respondents claimed to be implementers of CL, even occasionally. Consideration of the data as a whole, in the light of the literature, suggests an explanation for this seeming anomaly: that often, teachers who think they are implementing CL are not actually doing so, due to an incomplete understanding of what CL is, and what it requires. This possibility is suggested by the evidence from the survey that teachers rated their understanding of CL high (Table 8.8) yet failed to understand basic principles (Fig 8.8), as well as the disparity between the number of claimed CL implementers among the sample and the number who had actually been trained on CL (Fig 8.6). A basic misunderstanding identified in this study, for example, was that arranging pupils in groups is all that is needed for CL, an incorrect perception expressed by a large proportion of respondents in the survey, and confirmed in the interview with S1. Interviewed teachers talked at length about their strategies for arranging groups, and were observed to pay considerable attention to this managerial role in the lessons observed, but (as will be seen later), in other respects their practice was not always consistent with CL. Johnson et al. (2007) acknowledge the prevalence of a misconception that CL is essentially about working in groups, but as indicated by Johnson et al. (1998), not all work groups are engaged in CL. In fact, practices and behaviours observed in this study, or discussed by interviewees, suggest that some of the groups participating in the observed lessons were not true CL groups, but- in Johnson's et al. (1998) typology- pseudo–learning or traditional learning groups. The former lack a common interest in working together, leading to competition and hiding of information, while in the latter, the assignment of tasks that are not structured for CL results in some pupils becoming disengaged and free-riding. All these behaviours were witnessed in the classrooms visited (for example, pupils

whispering to avoid others hearing their ideas, pupils writing down answers provided by team-mates, without engaging with the reasoning that led to those answers). Some teachers, too, expressed concerns about pupil passivity (Chapter 10: Constraints) and free-riding (Chapter 9, Pupil role), or acknowledged that levels of participation and interaction were not as they had hoped (see T2 post in Chapter 9: Pupil role, teacher expectations). As Johnson et al. (1998) argue, what distinguishes the mere arrangement of pupils into groups from an authentic CL situation is the presence or otherwise of the necessary preliminary factors. In this respect, it can be argued that the presence of these factors as evidenced in this research was variable- from one factor to another, from one teacher to another, and even in different segments of the same lesson- but was generally too low to meet prescriptions contained in the literature for effective implementation of CL.

Regarding Positive Interdependence for example, it has been suggested that CL requires tasks to be structured in such a way that their solution depends on the complementary roles and contributions of all group members, who share resources, work toward a common goal, and succeed or fail together (Johnson and Johnson, 1989; Cohen, 1994b). Lack of Positive Interdependence, Johnson and Johnson (2005) suggest, leads to competitive and individualistic behaviours. In this study, as noted previously, more than 80% of survey respondents saw competition as characteristic of CL lessons, and only half recognised that pupils should share resources. In the interviews, although teachers expressed the expectation that pupils would co-operate, they also admitted that they encouraged competition, and that they assessed pupils individually; group marks were purely for encouragement and did not count towards pupils' achievement record. In the quantitative checklist used to record pupils' role behaviour, although "everyone participates" was the highest- scoring item (m=4.71, see Table 8.1), this was attributed mainly to teachers' practice of controlling participation by their strategy of directing

questions to individual pupils. In contrast, "use group roles", one aspect of positive interdependence advocated in the literature (e.g. Cohen, 1994a) was one of the lowest scoring items. This may be explained by the fact that teachers did not seem to assign specific roles to group members, other than the role of leader (see Chapter 9, Teacher role; Chapter 10, Teacher role). Work was not clearly shared among group members, usually all worked on the same task, each using their own workbook or photocopy of supplied material (Chapter 9, Pupil role). Thus, role interdependence (Cohen, 1994), resource interdependence (Johnson & Johnson 1989) and task interdependence (Alhodithy, 2009) were absent, and outcome interdependence (Johnson &Johnson, 1989) was applicable only within certain limits, since all pupils were expected to achieve the task, but were assessed on individual recall rather than contribution to a group outcome.

Whilst lack of positive interdependence is suggested by Johnson and Johnson (2005) to be a cause of competitive and individualistic behaviour, the teacher attitudes and practices observed in this study suggest an alternative explanation, at least in the Saudi context, namely, the competitive and individualistic behaviours are precursors to and reasons for, rather than outcomes of, a lack of positive interdependence. Interviewed teachers all saw competition as desirable (Chapter 9, Characteristics of CL) and were seen to actively promote it (Chapters 9 & 10, Teacher role), setting up competitive structures, providing verbal incitement, and in some cases offering material rewards to successful teams, or sometimes to individuals. At the same time, as noted above, they promoted individualistic behaviour by adhering to a traditional assessment system that focuses on individual recall of information (Chapter 9, Teacher role). Indeed, teachers were observed to question pupils individually after their supposed group discussions, seemingly abandoning the group structure, and one teacher was observed asking pupils to answer questions from the textbook "by yourselves" (Chapter 10, Pupil role). Such practices, as has already been

suggested, seem to be linked to a teacher mind-set moulded by expectations and practices entrenched in the Saudi culture, and in the structure of the education system.

Positive interdependence is closely linked with individual and group accountability, which implies that everyone is responsible and accountable for their contribution to the group outcome (Gillies, 2007). This entails each member of the group in a CL situation having a role to play in contributing to the group enterprise. In this study, however, over a quarter of participants to the survey did not recognise that CL assigns each pupil a role (Table 8.2), and as noted above, the teachers participating in Phase Two did not appear to recognise roles other than that of teacher, when arranging groups. Thus, the same factor that contributed to a lack of means interdependence (since means, according to Cohen, 1994a, include pupils' complementary roles) also signalled a low level of individual accountability, since the focus was on pupils speaking or writing 'the correct answer', irrespective of how, if at all, they contributed to its discovery. The low level of individual and group accountability meant that pupils' contributions to task completion varied greatly; at one extreme was Fahad, in T4's lesson, for example, who led and even dominated discussion in his group, driving them towards what he perceived to be the correct answer to the question posed; at the other, three pupils in T2's lesson who gazed around or leaned back in their chairs and remained totally disengaged from their group's discussion. In this situation, "work as a team" ranked joint fourth in the observation checklist, with a very modest mean score of 2.50. Moreover, examples of free-riding were observed, and indeed concerns about free-riding were voiced in interviews (Chapter 9, Pupil role) and one of the reasons given in justification of individual assessment. The teachers interviewed saw free-riding as a potential risk of group work, to be deterred by questioning individuals- particularly those known to be weaker members of their group, to ensure everyone was able to recall and reproduce the required information, such as giving an example of a targeted grammatical feature. However, they showed no evidence

of awareness that free-riding was a result of the way task and pupils' roles were (or more accurately, were not) structured, and how this might relate to their own role as teachers or to a focus on the product, rather than the process of learning.

In contrast to the confusion shown by teachers regarding the first two factors, the third preliminary factor, promotive interaction, appeared to be well understood, from responses to the questionnaire in Phase One. The items concerning pupils working as a team and assisting each other were the best understood in the survey, with almost all teachers correctly identifying these behaviours as characteristic of successful CL (Table 8.3) consistent with Johnson et al's (2000) discussion of the facilitation and encouragement with which learners in CL promote each other's efforts. Interviewed teachers expected and reported interaction among pupils. Teachers, moreover, exhorted pupils to discuss topics together, and to help each other. In practice, however, the quantity and quality of promotive interaction varied. Pupils did help and encourage each other, but their help sometimes took misguided forms, such as doing a task for a friend, or telling a group member the answer to a question, rather than facilitating and encouraging their colleagues' own efforts. Moreover, the items related to giving encouragement and showing appreciation both scored low on the observation checklist (1.50 and 1.57 respectively). A number of reasons may be suggested for the low levels of observed promotive interaction, seemingly at odds with surveyed teachers' recognition of its role in CL. These include the closed nature of many tasks, the strict control of participation by teachers (including an insistence on quiet and order), constraints on pupil movement, whether due to teacher preference or the configuration of classroom furniture, and entrenched habits of working individually, not only in Arabic language lessons but across the curriculum (see Chapter Four).

The fourth preliminary factor, interpersonal and small group skills, was well recognised by the survey respondents- 94% correctly responded to the item 'active listening', while

85% did so for "pay attention to each other" (Table 8.4). Interpersonal skills were also discussed by interviewees. Among their expectations of pupils' role, for example, were that pupils would express opinions, respect others' opinions, and ask for help (Chapter 9, Pupil role). Moreover, in expressing their conceptualizations of CL, teachers highlighted the value of CL in promoting teamwork, co-operation and mutual consideration, and suggested that CL helped in the development of social skills that would benefit pupils in later life. Interest in this aspect of CL is not surprising, as Arab culture attaches great importance to interpersonal relations and the interests and welfare of the collective (Al-Gathami, 2009). Nevertheless, there was some disparity between teacher expectations and the actual level of interpersonal skills shown by pupils. In the observation checklist for example, the items 'active listening' and 'ask for help' attained only moderate mean scores of 2.59 and 2.58 respectively, while 'explain and say why' and use "I feel" statements were the lowest scoring items in the list, both attaining a mean score of only 0.57 (Table 8.1). Moreover, pupils were observed (and in one case acknowledged by their teacher) to have difficulty expressing opinions. The teacher who discussed this point, T4 attributed the difficulty to pupils' youth and inexperience (Chapter 10, Pupil role), but it may be suggested that a part was also played by the structured tasks and closed questioning which left little room for debate and negotiation among pupils. One interpersonal skill that was frequently observed, however, was the exercise of leadership. This was a quality deliberately fostered by teachers, who tended to mention appointing leaders (and sometimes delegating specific authority to them) as part of their strategy in arranging groups (Chapter 9, Teacher's role). Teachers clearly valued leadership, to the extent that, when I pointed out the behaviour of a pupil whose leadership came close to domination and appeared to cause some annoyance to his colleagues, the teacher praised the boy's behaviour and perceived no problem. It has been suggested previously that the authority of the traditional sheikh in Arab history has contributed to a culture governed

by hierarchy and respect for authority, and the observed emphasis on leadership is consistent with such values.

The last of the five necessary preliminary factors identified in the literature as prerequisites for successful CL is group processing, which requires group members to have the opportunity and ability to assess their learning, the strategies they have employed, and the effectiveness of their working relationships (Stahl, 1994; Alhodithy, 2009). In relation to this factor, as with the previous ones, there was a disparity between teachers' theoretical understanding and expectations, and the behaviour observed in the seven visited classrooms. In responding to the questionnaire in Phase One of the research, more than 80% of teachers recognised that CL requires pupils' assessment of their strategies and learning (Table 8.5). In interviews, teachers had little to say about group processing skills; S2 expressed an expectation that pupils should reflect on their learning, but teachers did not mention this. Moreover, group processing skills scored low in the observation checklist 'reach consensus' attained a mean score of 1.57, while 'summarise learning' and 'reflect on progress' each scored 1.28, ranking joint 15th among the 21 items of the checklist (Table 8.1). It was observed in lessons that pupils generally had little opportunity for reflection on what they had achieved- T1's 'knowledge maps' were a rare exception. For the most part, reflection was constrained by time pressures - teachers were seen to rush from one activity to another - and by the teacher-centred structure of the lesson. Teachers' own understanding also played a role; when asked about reflection and feedback, they asserted their importance and insisted that they took place, but in practice tended to interpret this in terms of teachers' checking of student recall and understanding at the end of an activity or lesson, rather than an activity performed by pupils themselves.

One factor in the generally low prevalence of the five preliminary factors, it could be argued, is lack of preparation on teachers' part. Although this has not been explicitly listed among the prerequisites identified by authors, it could be argued as an essential precursor

to ensure the establishment of the five factors discussed above. A number of writers, for example, assert the need to prepare pupils for CL, both by explaining the expected behaviour and by providing training in group skills (Gillies and Ashman, 2003; Gillies, 2007; Baines and Golen, 2005; Johnson and Johnson, 2008). Teachers in this study recognised that pupils needed to learn, practise and develop CL behaviours over time; a number of them mentioned this in interviews (Chapter 9, Pupil role), and attributed difficulties to pupils' youth and lack of familiarity with the approach (Chapter 10, Pupil role). Nevertheless, none indicated that they provided specific training in the expected behaviours, and only T4 and T6 explained the required behaviour when briefing pupils at the start of the lesson. Other kinds of preparation needed relate to the lesson content and classroom managements, for example preparing the lesson and structuring tasks (Stahl, 1994), explaining the academic task to pupils (Johnson and Johnson, 2008), arranging group (Stahl, 1994), establishing group roles (Brubacher, 2004), and setting up the reward structure (Slavin, 1988). Teachers differed in the extent to which they engaged in these forms of preparation, and some preparation tasks were performed more commonly than others. As part of their managerial role, for example, teachers tended to brief pupils on the academic task (Chapters 9 and 10, Teacher role) and they devoted time and energy to arranging groups (Chapters 9 and 10, Teacher role). However, actual lesson and task preparation were less reliability performed. Although several teachers identified planning and preparation as part of the teacher's role (and one teacher offered to provide documented evidence of extensive effort on preparation during school holidays), there was also a suggestion that some teachers relied on commercially available lesson plans (Chapter 9, Teacher role) and in any case the detailed provisions of the standard textbook and teacher's book for each grade level potentially took much of the task of preparation out of teachers' hands. As a result, tasks were not necessarily structured in a manner conducive to CL, despite indications in the teacher's book that certain of the stipulated

exercises were intended to be done using a CL approach. In practice this appeared to mean that pupils were told to discuss topics in groups before answering questions orally or in writing, but teachers did not arrange pupil roles and often did not differentiate tasks (Chapter 9, Teacher role). Other than arranging groups, the preparatory activity that was most commonly performed was arranging the reward structure, a task consistent with teachers' perception of the value of competition in teaching and learning. Their practice in this regard contradicted Slavin's (1988) principle that pupils are better rewarded by self-improvement than by comparison with others, as well as Ryan at al's (1985) assertion that extrinsic reward is unnecessary as co-operation is its own reward. It may be suggested that teachers used competition and extrinsic reward (whether steps towards the top of the pyramid or gifts such as balloons) partly for cultural reasons, but also because the constraints of the curriculum- for instance lack of autonomy for teachers, let alone pupils, in choice of topics and tasks- limited the potential for intrinsic motivation. The constraining force of the curriculum was, indeed, a major theme in teachers' discussions of the constraints and challenges facing attempts to implement CL. This and other challenges reported by participants or observed during my visits, are discussed in the next section, which may shed further light on the limitations of understanding and practice of CL observed in the participating schools.

Q5: What are the challenges to the development of these factors?

The interviews, observation and to a lesser extent, the questionnaire, resulted in the identification of a number of constraints and challenges that posed difficulties for teachers' effective implementation of CL, and help to explain the limited prevalence of the necessary preliminary factors, discussed in the previous section. These challenges can be divided into three main categories: the school setting and resources; the curriculum, and teachers' lack of experience and training in CL.

Beginning with the school setting and resources, classroom setting, including for example furniture arrangement, has been identified in the literature as an important factor in the structuring of tasks to promote pupils' social skills (Kagan and Kagan, 1994). In the participating schools, however, the small size of classrooms was a common complaint among interviewees, borne out by observation in the lessons I attended (Chapters 9 and 10, Constraints). The size of rooms was seen in some cases to provide little flexibility for the arrangement of furniture, resulting in lack of freedom of movement for pupils, and some awkward arrangements that were not conducive to CL – for example pupils sitting in rows, which prevented some group members from seeing and talking to each other, or arrangements in which group members were not able to see information written on the board. Such constraints, which were observed and reported in purpose-built schools as well as the school established in a leased building, reflect the pressure on the Saudi government to create an educational infrastructure for a whole country within a short time, as well as the fact that school buildings were designed for education on the traditional teacher-centred model. Such conditions were consistently raised as a problem for CL in an earlier study by Alhodithy (2009). Whilst they do not necessarily prohibit implementation of CL, it can be suggested that such conditions impose greater demands on teachers in terms of structuring tasks and arranging groups, and require greater understanding of and commitment to CL among teachers, than where conditions are more conducive to CL.

Another potentially challenging aspect of the school setting, particularly in these small rural schools serving scattered villages and Bedouin population, is class (and consequently group) size. The classes visited were all small- only one had around twenty pupils, while others had very small members, less than ten. Teachers also reported problems of absenteeism among Bedouin children when they were required to help their families with moving livestock for grazing. In such circumstances it might not always be

possible to arrange groups of the size recommended in the various CL approaches described in Chapter Two (typically 4-7), and small group size would constrain the range of resources and abilities available within each group, as well as the potential for members to fulfil a range of complementary roles. In more urban areas, the opposite problem, of excessively large class size, may arise. Teachers and supervisors suggested that CL might become more difficult with classes of 20 or more, yet Alhodithy (2009) reports that in the big cities, a single class may contain up to 50 pupils.

Whatever the class size, it is important for CL that pupils have access to a sufficient quantity, quality and variety of resources, beyond the textbook (Hertz-Lazarowitz & Shachar, 1990). A commonly reported problem in Saudi schools, however, is both quantitative and qualitative deficiency in resources (Alhodithy, 2009), and this was indeed supported by the findings of this study. Participating teachers were observed to use few resources other than the textbook; only one school had a separate, reasonably well-equipped resource room, while in other schools, teachers relied on a single projector, shared among classes, or even had to supply their own equipment. Teachers commonly complained of the lack of technological aids and inadequate maintenance of the few aids available. Such a shortage of equipment might appear surprising, given the levels of government expenditure on education, and the declared intention in education policy to equip pupils for the modern era and knowledge economy by ensuring, for example, that all pupils have access to a computer in school (King Abdullah Project Official website, 2015). However, given the limitation of the regional infrastructure – some villages have only recently acquired paved roads and been connected to the national electricity grid – it can be seen that fulfilling these ambitions is more difficult than in some Saudi regions, and in fact, regional disparities were noted in the interviews with teachers. It may also be suggested that the shortage of resources, like school layout, could be linked to the nature of the education system. As indicated in an earlier section, Saudi education has

traditionally been hierarchical and teacher centred, relying almost wholly on standard textbooks (Alaisa, 2009) prepared and supplied by the Ministry of Education, which might have contributed to a lack of attention to other aids. Moreover, as asserted by previous writers (Alhamd et al., 2004; Alhodithy, 2009) and confirmed by S1 in this study, there has been no substantial revision of education policy in recent decades. General statements of principle, and even projects such as the King Abdullah project for educational improvement (which includes ambitions with regard to the provision of ICT resources in schools) are not accompanied by a clear policy with measurable goals. S1 argued that successful implementation of CL in Saudi schools would require a comprehensive review of the education system, starting from Ministry level, and it may be suggested that the provision of resources to support teaching and learning may form part of such a review.

This brings me to the second major challenge to CL identified by the research participants: the centrally- imposed curriculum. Both teachers and supervisors attested that the curriculum imposes a long list of subject-content to be transmitted by teachers, which creates a heavy workload. Teachers felt under pressure to comply with the authority's demands, the same situation identified in an early study by Al-Sayed (1988), and apparently still unaddressed. Even S1, who showed a good understanding of CL principles and identified the shortcomings of practice among teachers he had observed, admitted that, faced with the volume and intensity of the curriculum and the time needed in CL for the arrangement of groups and pupils' construction of knowledge, he had abandoned CL and resorted to traditional didactic methods. One teacher argued that some 'lessons' in the textbook actually needed to be divided across two sessions, and another admitted repeating a lesson. An observed consequence of the time pressure created by this inflexible, overloaded curriculum, was a rushed and superficial covering of tasks, and a lack of opportunity for reflection, whether within pupils' groups, or in a final plenary

class discussion. Kagan and Kagan (1994) assert the need, within Cl- based lessons, of time for reflection and feedback- the focus of the group processing discussed in earlier sections. In the absence of time for such processing, opportunities to evaluate and enhance both learning and working relationships is lost, and learning is likely to be sub-optimal. Indeed, Alhodithy (2009) who similarly found a tendency for pressurised teachers to resort to lecture-style presentation of content and to limit or omit discussion and reflection, commented on the irony or absurdity of a situation where 'presenting', i.e. reading aloud, curriculum content, takes precedence over measures to promote and consolidate pupils' understanding of it.

A basic problem here, although one not identified explicitly by teachers, is a lack of teachers' input into the curriculum, which is not informed by the day-to-day realities in schools (Al-Sadan, 2000). Teachers were struggling with a system and curriculum imposed from above, for which they were held accountable, and their frustration was evident in widespread perceptions of a lack of support at every level, from the ministry downwards.

Perhaps the most serious challenge facing development of the necessary preliminary factors for effective CL, however, is the deficiency in the quantity and quality of teacher training for CL. Specific training in CL is important because the teacher's role in CL is different from traditional teaching (Brody and Davidson, 1998), and because the teacher is required, in turn, to train pupils in the skills needed for CL (Veenman et al., 2004). In this study, however, doubt was cast on the experience and quality of CL training by areas of misunderstanding of the teacher's role, by discrepancies between theoretical insights expressed in interview and actual classroom practice (such as reversion to didactic, teacher centred teaching and restrictions on pupil interaction), and the scant evidence of pupil training. In fact, notwithstanding S2's insistence that training was widely available and of good quality, two-thirds of teachers surveyed in Phase One of the study reported

receiving no training in CL (Fig 8.8). Not surprisingly, therefore, the survey revealed weak understanding of basic CL concepts, reflected for example in the misapprehension that CL requires only that pupils sit in groups, or that they need the teacher's permission to talk (Fig 8.8). Interestingly, however, training did not improve understanding of CL; high levels of misunderstanding were found even among teachers who received training (Table 8.7 and following). Teachers, moreover, overestimated their understanding of CL (Table 8.6) and the quality of CL implementation (Fig 8.4). Although surveyed teachers rated the quality of training good, the validity of these claims is called into question by the prevalence of basic misunderstandings, and also by the fact that teachers who showed a better understanding of CL in the survey tended to give lower ratings to training quality (Table 8.4).

Lack of understanding of CL principles, and of the teacher's role, could reduce the benefits of CL, according to Ayres et al. (2004) and Veenman et al. (2004), a view also held by interviewed teachers and supervisors, who claimed that, due to a lack of relevant knowledge and skills, many teachers apply CL "notionally" but not "practically". One example of the limited understanding of CL, even among the more effective practitioners observed, was a tendency to attribute blame to pupils for "constraints" such as passivity, distraction and free-riding. It seemed that teachers saw such problems as inherent in pupils, whereas, as noted in the previous section, observation suggested that such behaviours were explicable, at least in part, by the way tasks were structured and resources distributed, leading to a lack of positive interdependence. One reason for such problems, even among teachers who had received some training in CL, is found in the complaint that training was too theoretical. Insufficient practical experience provided in pre-service or in-service training can be seen as a reflection of the historical tendency of the Saudi education system to focus on learning outcomes, rather than processes. Teaching is regarded as a function that anyone can perform who has a degree, and so

teacher education, like education at other stages of the system, focuses on the transmission of content (Alhodithy, 2009). It is only in the final year of their four-year degree course that would-be teachers attend a school placement, and there is no clear policy on how much of this must be spent in practical teaching. There is also a lack of systematic in-service training; although some of the interviewed teachers reported receiving in-service training, it was not specifically on CL-just two teachers reported courses that had briefly touched on CL. Teachers also commented on the inadequate expertise of the trainers themselves. The Phase One survey revealed that of the teachers who had received in-service training, only two reported the provision of a specialist trainer, others being trained by educational supervisors. This would not be a problem if the trainers themselves were fully trained in any educational innovation (such as CL) they were expected to promote and supervise, but S1's remarks (Chapter 9, Constraints) suggest this was not the case. Inadequately prepared supervisors will be unable to provide effective training, supervisions and support for teachers, who in turn will face difficulty in training their pupils and implementing CL effectively, particularly in the face of the setting and curriculum-related challenges highlighted above.

It can be seen that development of the necessary preliminary factors for CL in Saudi primary schools is challenged by a complex interplay of micro and macro-level factors, with conditions and practices in schools influenced by policies and provisions rooted in the history of the education system and the development of the country itself. Nevertheless, there are also some facilitating factors, to which I turn next.

Q6: What facilitating factors exist to aid their development?

The CL literature has little to say about the specific facilitating factors for development of the necessary preliminary factors. However, in Chapter Four of this thesis, and in the discussion addressing research question 3, earlier in this chapter, I drew attention to

aspects of the Saudi setting that might be expected to be conducive to the development of CL in the Saudi context. Such factors, which were supported by the results of this study, include dimensions of culture, specifically Islam and collectivism, and the Saudi government's commitment to education and interest in reforms. Other factors, mentioned by teachers or inferred from my own observations, include the school climate, and teachers' own willingness to develop their professional knowledge and practice. In this section, I examine each of these factors in turn.

As regards the Saudi culture, it was noted earlier that all aspects of Saudi life are influenced by the teachings of Islam (Aboalfaraj, 2004) and attention has been drawn to Islamic principles that may be conducive to CL, such as the encouragement of co-operation and personal responsibility (Alagla, 2001). This Islamic emphasis on co-operation, in particular, was recognised by all participants in Phase Two of the study, several of whom quoted from the Quran and hadith to support their claims in this respect. Given teachers' familiarity with these principles, and the way Islamic thought permeated the school culture, consistent also with the insistence in the education policy that all subjects should be taught from an Islamic perspective (Education Policy, Ch 2, Clause 28) it seems likely that Islam can be invoked to encourage the cooperative participation of pupils in CL, required for positive interdependence. it is important, however, that attention is also paid to the principle of personal responsibility, noted by Alagla (2001) but less recognised by teachers in this study, as this can facilitate the concept and practice of Individual and Group accountability. Emphasising this principle would help teachers and pupils to understand that each group member has his or her role in the joint endeavour, and is responsible and accountable for his or her contribution, thereby providing an answer to the problems of passivity and free-riding.

Another cultural dimension that would similarly be conducive to CL and particularly Positive Interdependence, Promotive Interaction and Interpersonal Skills, is the Arab

tradition of collectivism. Al-Gathami (2009) sets collectivism alongside Islam as the twin pillars of the Saudi culture. It stems from ancient tribal traditions whereby, in the absence of a central state authority, members of groups at various levels (family, clan and tribe) relied on close relations and mutual support for sustenance and security. Saudi society continues to be characterised by strong collectivism (Bjerke & Al-Meer, 1993).

Whilst participants had less to say about this than about Islam, one interviewee drew attention to the cultural support for co-operation and collective activity manifested in social life. Moreover, one of the features of CL recognised and valued by teachers was its potential for developing pupils' social skills for later life, reflecting the great importance attached to interpersonal relations in Saudi culture.

In addition to these cultural factors potentially conducive to CL, attention was also drawn earlier in the thesis to a possible facilitating institutional factor, namely, the strong commitment of the Saudi government to education, and its recent declared interest in educational reform. The level of support for education is evident in the large proportion of the budget consistently allocated to education, and the speed with which the government has created an educational infrastructure for the whole country, as demonstrated in Chapter Four.

In recent years, inspired by the concern that the Kingdom should take its place among the developed, modernised nations of the world, particularly in the light of accession to the WTO and increasing openness through travel and the media, the Saudi government has expressed a wish to drive up education quality and to enhance pupils' critical thinking skills (Al-Hakel, 1994; Alkanem et al., 2005). Such concerns have been reflected in projects such as the King Abdullah Project (www.tatweer.edu.sa, 2008), referred to earlier. The achievement under such initiatives so far has been limited, due to a tendency to patch "reforms" onto the existing hierarchical structure and traditional approach to

education, without the necessary re-examination of underpinning policies, as argued by S1 in this study, as well as a lack of input from the teachers at the grass-root level (Al-Sadan, 2000). This may explain why teachers in this study felt unsupported in their attempts to implement CL. Nevertheless, if suitably informed by research and consultation, the government's commitment to education and apparent willingness to entertain new ideas may facilitate the development- albeit slowly- of conditions more conducive to the implementation of CL.

Whilst teachers generally thought that Ministry- level support for CL, in the form of better resources, and a less intense and crowded curriculum, is not yet available, their views on school level support were more favourable to CL. Examples of co-operation in various aspects of school activity were pointed out and one teacher described such co-operation as essential to the educational process. Since school climate affects the attitudes and practices of teachers, and in turn the values and behaviours they model to pupils, a school climate that values and practices co-operation and harmoniums relationships is likely to be conducive to the development of positive interdependence, promotive interaction and interpersonal skills in the CL classroom.

A final factor inferred from my talks with teachers and observations during my visits to the schools, is teachers' willingness to develop their professional knowledge and practice, and their interest in looking beyond the traditional teacher-centred approach to teaching and learning. Since the participating teachers were a self-selected group of those claiming to be regular CL implementers and with a declared interest in this approach, it is not clear, at this stage, how prevalent such attitudes are in the Kingdom as a whole. Nevertheless, the findings suggest the existence of a number of teachers who show a wish to receive training in CL. Participants' commitment to enhancing the educational process was further demonstrated by their attempts to introduce and maintain teaching aids and equipment, even at their own expense. There were, moreover, instances of teachers

engaging in personal self-study, and in collegial relations with other teachers, in an effort to develop their professionalism and acquaint themselves with new ideas and skills. Such committed effort, in an education system that offers little support or incentive for teacher autonomy (Alhodithy, 2009), can be seen as a positive indicator of the potential for development, especially if teachers are supported at administrative and ministerial levels.

Although other facilitating factors were mentioned by teachers interviewed in the second phase of the study, such as setting-related factors, it was noted in Chapter Nine that these were essentially mirror images of the constraints mentioned, and were not necessarily available at the present time. For example, suitable classrooms and adequate resources for information search and presentation were mentioned as facilitating factors, not because they are currently available, but because they were perceived as remedies to the constraints of the status quo. Such factors currently, at least in the research area, constitute an ideal to which teachers and policy makers might aspire, rather than an experienced reality. To bring them into being will take time, top-level interest, and commitment of financial resources. Nevertheless, it is encouraging to note the existence of supportive socio-cultural values, government interest in reform, a cooperative school ethos, and a nucleus of hard-working, dedicated and innovation- minded teachers interested in CL, all of which, eventually, may facilitate the development of conditions more suited to CL in the Saudi context.

Summary

This chapter has drawn together threads from the literature and a two-phase empirical study encompassing a survey, interviews and observation of selected lessons, in order to address six research questions related to the prevalence of CL in the Saudi primary school context. In addressing the first two questions, a summary was provided of the previously reviewed literature on cooperative learning and the preliminary factors necessary for its

effective implementation. Based on the benchmarks afforded by this international literature, and the findings reported in Chapters Eight (the survey), Nine (the interviews) and Ten (observation), it was shown that the prevalence of the necessary preliminary factors in the Saudi context is low. Although there was evidence of promotive interaction and some exercise of interpersonal and small group skills, positive interdependence, especially resource interdependence, was limited, as was individual and group accountability, and group processing was almost entirely absent. Thus, despite the good intentions of teachers, and the apparent greater engagement of pupils in comparison to knowledge lessons, what was taking place was not CL as described in the literature. Teachers often reverted to traditional teaching mode, and the groups behaved more like what Johnson et al. (1989) call traditional learning groups and pseudo-learning groups than cooperative groups, with individual working and competition both in evidence.

The low prevalence of CL factors in the Saudi context was attributed both to a lack of comprehensive planning (including task structure, group roles, and preparation of pupils in CL skills) on teachers' part and to challenges posed by the classroom setting, the intensive and inflexible curriculum imposed on teachers, and insufficient or poor quality training that left teachers confused about basic CL principles, and unsure how to translate theory into practice. These factors, in turn, reflect deeper issues in the way Saudi society perceives education, and in authoritarian, hierarchical structures entrenched in historical traditions.

Despite these challenges, however, evidence was also found of factors that could potentially facilitate the development of CL. These include religious beliefs and social traditions that promote co-operation, a government committed to education and interested in reform, a school culture that exhorts teachers and pupils to co-operation, mutual assistance and harmonious relations, and a nucleus of teachers eager for change, willing to expend time and energy on self-learning, and keen to receive appropriate training.

In the next chapter, I conclude the thesis with a summary of the key issues identified, some thoughts on the contributions, implications and limitations of this study, and suggestions for future research.

Chapter Twelve

Conclusion and Recommendations

Introduction

In the foregoing chapters, a two-phase, mixed methods study has been reported, which was intended to extend understanding of issues around cooperative learning with particular reference to a novel country context, Saudi Arabia. Through a survey, multiple interviews and classroom observations, insights were gained into conceptualizations of CL, the availability or otherwise of necessary preliminary factors (identified from CL literature) and factors facilitating or constraining CL in the Saudi context. This chapter contains concluding reflections on the study and its implications. First, the limitations of the research are acknowledged, then the main conclusions derived from the study are outlined and the contributions of the research highlighted. Recommendations are offered for measures to facilitate and enhance the implementation of CL in the Saudi context, and suggestions are made for further research to build on the contributions of this study.

Limitations

All research is subject to limitations, and this study was inevitably subject to certain constraints of time and resources which affected its comprehensiveness and necessitate a note of caution in generalizing its conclusions.

A number of limitations apply to the research sample. In Phase One of the research, a census was conducted of all Arabic language teachers in primary schools in the selected region. Nevertheless, the research covered a single region in a large and varied country. Given the centralized, standardized education system of the Kingdome, any region should be representative of that system, in terms of the curriculum and requirements imposed on

teachers. However, in terms of topography, infrastructure and population, the regions differ. Schools in urban areas may be better resourced than those in the research area, but may face different problems in terms of class size, for example.

As for Phase Two, the sample of teachers was small and self-selected, presumably representing those with a particular interest in and knowledge of cooperative learning. Whilst the multiple interviews and observation of lessons yielded extensive and valuable data, it is possible that broader insights may have been afforded, had it been possible to include a larger number of teachers, who may have had other views on the implementation of cooperative learning.

Indeed, the confining of the study almost wholly to teachers may itself be seen as a limitation, as a range of other stakeholders may potentially have been able to contribute additional insights into the status of cooperative learning in Saudi Arabia. The interviews with two supervisors provided some information on training issues, but since inadequate training emerged as such an important challenge for teachers, it would have been interesting to investigate the views of pre-service teacher trainers (i.e. university professors) and specialist providers of in-service training, regarding the availability and content of training on cooperative learning. School headteachers, moreover, may also have interesting contributions to make to understanding of why CL is not more widely implemented, and the challenges and facilitators facing teachers interested in implementing it.

There was also limited inclusion of pupil perspectives; their responses during lessons were observed, but their views were not directly canvassed through interview. Doing so with such young children would have raised ethical difficulties, related to questions over their understanding, capacity to give informed consent, and the impact of power relations,

which could have affected their ability to express their feelings about teaching methods, or their relationships with teachers and peers.

The fact that the study was confined to boys' schools can also be seen as a limitation. Female teachers, being trained in different institutions from male, may have different experience or knowledge of cooperative learning, and cultural expectations of female behaviour may tend to promote different relationships in an all-female classroom. However, given the strict controls on male-female interaction in the Saudi context, it would not have been acceptable for a male researcher to observe and video female pupils and teachers, or interview female teachers privately.

In view of the above limitations, the findings of the study should be viewed with some caution. Nevertheless, they constitute an important contribution to the gradually growing understanding of CL in an under-researched area. Despite these limitations, the research makes a number of contributions to theory, practice and methodology, which are discussed next.

Contributions of the Research

This study has investigated the conceptualization and implementation of cooperative learning in an under-researched developing country context, Saudi Arabia, together with the challenges and facilitating factors influencing the application of cooperative learning in the environment. In so doing, it makes a number of contributions in the areas of theory, educational practice and methodology.

From a theoretical perspective, by extending the understanding of cooperative learning in a developing country context very different in social culture and educational history from the Western context where CL originated and on which much CL writing has been based, it provided new insights into the role of multiple, interacting macro and micro-level

factors in shaping the way in which CL is conceptualized and practised. Detailed investigation of teachers' thinking and experiences around CL in the Saudi context has helped to demonstrate and highlight the influential effects of cultural norms and values (in the Saudi case, Islam, collectivism and traditions of deference to authority), structural factors in the education system, economic factors, and even geography and topography, in shaping notions of what CL is or can be, as well as the scale and manner of its implementation. Such insights may draw attention to the need for further consideration of such factors, leading to more nuanced and context-specific understandings of CL principles.

More specifically, the research brings together understandings from a variety of previous authors in order to identify five core preliminary factors that characterise effective cooperative learning and are considered necessary for its successful implementation. A further contribution is the extension of this framework of necessary preliminary factors by the proposal and explication of a sixth factor, not explicitly identified in previous CL literature, which I have called Comprehensive Preparation. Comprehensive Preparation is not merely consistent with the five factors previously identified, but targets them all and is regarded as a necessary antecedent, which creates conducive conditions for their promotion. Based on the literature and on existing implementation approaches, I suggested that such preparation includes:

- the teacher's preparation of pupils for positive interdependence etc. both by communicating clearly the kind of behaviour expected of them and by helping them to develop the necessary skills;

- preparation of the lesson, the task(s) and the groups;

- establishing a suitable atmosphere for the five identified preliminary factors to be developed and employed effectively for pupils' learning.

Comprehensive Preparation provides a big picture that includes all aspects and actions that need to be considered and organised for teachers and pupils to develop their use of CL and maximise the benefits gained from such an approach. It is likely that establishing a comprehensive preparation theory may reduce the fear of failure in implementing cooperative learning approaches.

It is not enough, however, simply to propose a new factor to be added to theoretical frameworks of CL. The real value of comprehensive preparation has in its practical utility, and here too, this study offers a contribution in the form of a step-by-step guideline for teachers considering implementing cooperative learning. This guideline is set out clearly in the Recommendations section of this chapter, and so will not be described in detail here. Suffice it to say at this point, that it provides teachers with a set of sequential steps in comprehensive preparation, from initial thinking and learning about CL principles, through to planning for reflection and evaluation at the end of the lesson. This is not to say that I advocate a "one size fits all" approach to CL. As noted above, a strength of the research is its recognition of the culturally-contingent nature of education organisation and practice, and its implications for CL. Implementation of CL implies at least some degree of transfer of focus and 'powers' from teacher to pupils and, hence, an acceptance of a certain unpredictability, which may pose difficulty in some cultural contexts. Moreover, the implementation of such an approach raises issues of resource availability and classroom management which, again, will be affected by the teaching context. The guideline thus allows for flexibility in the choice of specific CL approaches. While certain approaches are suggested as particularly suitable for Saudi Arabia in the current juncture, teachers would make their selection according to available resources and cultural considerations in their own context; sensitivity to such issues is, indeed, an essential part of comprehensive preparation. With this proviso in mind, the guideline is expected to be useful to teachers beyond the Saudi context.

In addition to its theoretical and practical contributions, the study contributes to methodology in two main ways. First, it contains an unusually extensive and detailed elaboration of the philosophical foundation of the research, including ontological, epistemological and axiological considerations, articulating clearly how the research questions were translated, via this philosophical basis, into the selected research methods. In this process, the rationale for adoption of a pragmatic stance was explained, and the relationship articulated between this stance, methodological pluralism in collection and analysis of data, and the use of survey, interview and observation strategies. One purpose of so doing was to make explicit the thinking underlying the research, and so facilitate judgment as to the appropriateness of the methods adopted and the validity of the conclusions drawn. However, there was also a further intention to provide other researchers with an illustrative example of the process of methodological theorizing and research design. Such an example is likely to be of particular interest and value in the Saudi context, given the immaturity of research culture in the Kingdom. Until comparatively recently, the majority of studies by Saudi researchers relied solely or mainly on surveys, driven in part by cultural norms of privacy and lack of awareness of research, which posed obstacles to methods involving more direct engagement between researcher and participants and in-depth exploration of attitudes and experiences. More recently, a number of Saudi researchers have begun to use qualitative methods such as interview, but there is still a need to develop the research culture and encourage researchers to explore more fully the possibilities of research design. I hope that the detailed rationale provided for my own research design may contribute to this process.

The novel and complex two-phase design adopted in this study has, to the best of my knowledge, not been used in previous CL research. In addition to originality, the design has a number of advantages, combining both breadth, in the survey of the entire cohort of boys' primary school Arabic language teachers in the target region, and depth, in the

intensive engagement with a small nucleus of teachers purporting to use CL. In particular, the complexity of the second, qualitative, phase of the research, combining observation, pre- and post-lesson and general interviews and reflections on video-recordings of the observed lessons, linked teachers' espoused views to specific observed practices and facilitated deeper understanding of their thinking and of the factors influencing their practice. This triangulation of methods contributed to the trustworthiness of the research; watching and discussing the video-recordings of the lessons, together with the teachers concerned (in itself a novel practice in the Saudi context) was particularly helpful in verifying or developing my interpretation of the observed events.

A further benefit of the research design was its contribution to learning among the observed teachers. Such learning on the part of research participants is advocated by Guba and Lincoln (1994) as an indicator of research quality under their 'authenticity' criterion. However, it is often difficult to achieve or to demonstrate within a cross-sectional study, where the researcher typically gathers data at one point in time- for example in a single interview. In this study, however, the more prolonged engagement with teachers through the multiple interviews, observation, video recording and joint reflection allowed not only the development of my own thinking but also that of the participants. Whilst the pre-lesson interviews elicited teachers' intentions and expectations with regard to using CL, the post-lesson interviews and discussion of the video recordings challenged them to explain and reflect on their practice. In this process some, at least, showed evidence of learning- as, for example, when a teacher recognised that he had not adequately briefed pupils on the behaviour expected of them. Whilst it was not possible, within the timeframe of this study, to verify whether such teachers actually carried out their expressed intention to "do it differently next time", the fact that such comments were made suggests that teachers had taken at least a step toward learning through reflection on experience, to which the opportunity afforded by the research design appeared to contribute.

Following these reflections on the contributions and achievements of the research, in the remainder of this chapter, I offer conclusions and make suggestions both for practice and for further research.

Conclusion from the Study

Cooperative learning entails groups of students (Klingner et al., 1998) working and learning together (Jolliffe, 2010) towards a common goal (Cohen et al, 1999). It is an approach in which knowledge is co-constructed through interactions among students, rather than transmitted from teacher to student (Alhodithy, 2009). The CL literature identifies a number of factors considered characteristic of and necessary to effective learning through CL, and which distinguish CL from other kinds of group work. CL requires positive interdependence, success being dependent on the pooled efforts and understandings of all group members (Johnson and Johnson, 2003). Linked to this condition is individual and group accountability; each individual is responsible for completion of the assigned task. Achieving this requires promotive interaction, through which group members encourage and facilitate each others' learning (Johnson and Johnson, 1989). In order to interact effectively, students need interpersonal and small group skills, such as expressing ideas, democratic decision-making and respecting others' viewpoints (Gillies, 2007). Moreover, an important role is played by group processing, whereby members reflect on their relationships, strategies and achievements, in order to identify ways to improve the group's functioning and enhance future outcomes (Johnson et al. , 1998).

As Cohen et al. (1999) observe, however, the transfer of power to students implicit in CL gives rise to role changes and classroom management issues that may not be supported by traditional organisation policies. The truth of this observation was, indeed,

demonstrated in the views and experiences of the Saudi primary school Arabic language teachers who participated in this study. Findings suggest that, despite government rhetoric on educational reform, including a declared interest in CL, and despite the sincere and enthusiastic efforts of some teachers to modify their teaching strategies towards a more cooperative approach, there is a mismatch of values between CL as described in the international literature, and the status quo of the Saudi education system. Cooperative learning is, arguably, founded on notions of autonomy and freedom, and focuses on the process of learning. The Saudi education system, in contrast, is centralized and hierarchical, characterized by imposed authority, a lack of autonomy for teachers, let alone students, and focus on the product of learning, reflected in subject content-based teacher training and a strong focus in schools on testing, examinations and the grading of students. Notwithstanding teachers' comments on the changes in student and teacher roles associated with CL, the research findings showed how deeply rooted is the traditional belief that the function of education is to transmit knowledge. Not surprisingly, implementation of CL was thought by respondents to be low, and there were indications that teachers who claimed to implement CL were perhaps not actually doing so. Prevalence of the necessary preliminary factors was generally low, due to closed tasks, individual assessment that focused on production of correct answers, rather than participation, lack of pupil briefing or training in CL skills, and lack of time for negotiation, discussion and reflection. The majority of the observed teachers spent much of the lesson in "lecture mode", and frequently abandoned group discussion and reflection in favour of traditional questioning techniques. Moreover, their thinking was apparently conditioned by a traditional focus on comparison and competitions reflected in frequent references to students' "levels" or to "good" or "top" and "weak" students, their emphasis on competition as (in their view) a key attribute and advantage of CL, and above all in the competition promoting strategies they adopted in class. Given this apparent tension

between modernizing and traditional forces and values, implementation of CL in the Saudi context was seen to reflect a complex interplay among several macro and micro-level factors, related to the structure of the education system, the curriculum, the physical environment and available resources, and the teacher training system. The Saudi education system is highly centralized, with limited possibility for teachers to develop their own teaching philosophy and practices. Teachers felt under pressure to deliver the imposed curriculum within on unrealistic timescale, and even supervisors acknowledged the discrepancy between the modernizing agenda espoused by the government (including exhortations for teachers to use CL) on the one hand, and the failure to revise policies and curricula, informed by understanding of classroom realities, on the other. Implementation of CL was further challenged by the limited regional infrastructure, small classrooms, and unavailability or poor maintenance of educational aids, particularly information and communication technologies. Above all, implementation of CL is challenged by the insufficient quantity and inadequate quality of teacher training for CL, resulting in weak understanding of basic CL concepts, difficulty translating theory into practice, and a tendency to blame problems or disappointing outcomes on pupils' passivity, distraction or free-riding.

Despite the many challenges to CL facing Saudi teachers, however, there are a number of features of the Saudi social and education and context that that could potentially facilitate the development of the necessary preliminary factors and, hence, successful implementation of CL. Islam, a persuasive force in Saudi culture, and a declared influence on education policy, encourages co-operation, as does the Arab tradition of collectivism and the great importance attached in Saudi culture to interpersonal relations. Also potentially supportive is the government commitment to education reflected in healthy budget allocations and declared interest in introducing new teaching methods that promote problem-solving skills and creativity. Given all these factors, together with the

presence of a group of teachers interested in educational reform and willing to develop their skills through self-study and training, it seems possible that with appropriate training and support, CL could be effectively implemented in the Saudi context. Recommendations for measures to support and develop CL in Saudi schools are offered in the next section.

Recommendations

The findings reported in Chapters Eight, Nine and Ten have revealed a variety of misunderstandings and difficulties at all levels of the Saudi education system, from ministry to teachers, that impede the implementation of CL. Accordingly, in this section, recommendations are put forward for measures to overcome these difficulties and build on the identified facilitating factors, in order to encourage and enhance CL.

At Ministry level

The MOE has expressed interest in CL, and has instructed teachers to use CL for certain units and lessons of the curriculum, but has given them little guidance on what CL is or how to implement it. Moreover, aspects of the curriculum are perceived by teachers and supervisors as unconducive to CL. In the hierarchical education system of Saudi Arabia, attempts to introduce or institutionalize innovation must start with the Ministry level. Therefore, I recommend the following:

1. A review of education policy is long overdue. Given the Saudi government's declared wish to equip students with problem-solving and critical thinking skills appropriate to the modern era, by developing teaching methods, it will not be sufficient simply to add scattered directions and new exercises into a curriculum which was developed in a different era and for a traditional culture. A consultation exercise involving district-level education supervisors, head teachers and teachers would be advisable to enable

policy-makers to make decisions informed by better understanding of the day-to-day realities in schools.

2. A teacher's resource could be prepared by a Committee within the MOE in the form of a handbook to be distributed to schools, containing basic information about new teaching methods and approaches such as CL. This would be particularly useful for teachers who are not university trained or have not yet had an opportunity of in-service training in CL, and would make such information accessible for teachers in rural areas where limitations of infrastructure may make course attendance or access to online resources difficult.

3. There is real need for appropriate pre-service and in-service training, of good quality, by knowledgeable trainers, to equip teachers with a sound understanding of the learning theories and principles underpinning CL, as well as the practical skills for implementation. This may require co-ordination between the Ministry of Higher Education, which supervises teacher preparation in universities, and the MOE, which provides in-service training. As the bodies with the overall responsibility for education policy and practice, the Ministries should ensure that training in CL is provided not only to teachers, but also to the university professors who educate pre-service teachers, the supervisors who advise and sometimes provide in-service training for teachers, and the head teachers on whom teachers rely for support, such as resources, at school level. Such training would help to establish a network of knowledgeable and supportive professionals, able to encourage and mentor teachers in implementing new ideas and methods.

Universities and Training Bodies

A number of more specific recommendation may be made related to training, reflecting the distinct roles (albeit under Ministry guidance) of the training providers themselves.

1. In university teacher education courses, where possible it would be desirable for elements of the course to be taught using CL, so that pre-service teachers have direct experience, from the "student" perspective, of what CL is, and of the roles of teacher and student within it, which would inform their own practice when they eventually become teachers in schools.

2. Pre-service teacher preparation should pay more attention to teaching and learning processes, rather than simply subject content, so that teachers qualify with a good basic knowledge of a variety of teaching methods and approaches. Moreover, a balance is needed between theory and practice. Even teachers who reported some exposure to or training in CL considered the training to be too theoretical and lacked confidence in the practicalities of implementation. Micro-teaching exercises might be helpful; and arrangements should be made to ensure teachers-in-training have sufficient opportunity for practical teaching while on school placement.

3. In-service courses need to be available on a regular, systematic basis. Given the evidence in this study of poor-quality training resulting in weak understanding of CL among recipients, it is important that training is conducted by suitably qualified and experienced trainers, informed by a systematic analysis of teachers' training needs, and oriented to practical teaching.

Teachers

Whilst teachers' practice in the Saudi context is to a great extent shaped by pressures from the upper levels of the hierarchy, and features of the setting in which they work, there is much that they can do to improve their understanding of CL and to implement it effectively. The following sequential steps are suggested as a guideline for teachers interested in implementing CL.

1. Understand what cooperative learning is: read about the definition of cooperative learning, its preliminary factors, the different approaches, and teachers' and pupils' roles. Consider the intended benefits of using cooperative learning. In order to implement CL effectively, teachers need to understand what they are trying to achieve. Teachers are urged to avail themselves of any training opportunities available, and to take advantage of collegial relationships with other teachers to develop their understanding of CL.

2. Consider the specific educational context where CL will be implemented, as cultural and environmental factors affect implementation.

3. Choose a suitable CL approach, according to the context. There are several approaches within cooperative learning, which share the idea of working in groups but differ in the structure of the task, rewards and assessment. In the Saudi context, I would suggest that teachers might begin with Kagan's structural approach, STAD or TGT because of their simplicity compared to the co-op co-op or group investigation approaches. When using STAD, for example, the teacher first presents the lesson to the whole class, which is similar to traditional teaching so teachers and pupils will recognise the approach. This will provide a bridge from traditional learning styles to cooperative learning. Pupils cooperatively discuss the material learnt together before taking quizzes. This is likely to be easier to implement in the Saudi context than other methods and a useful approach that can be employed as an introduction to cooperative learning. Then, when teachers and pupils are more familiar with cooperative learning, the teacher may consider applying other approaches.

4. Before the lesson, comprehensive preparation is needed. This involves preparing the lesson, task and groups for positive interdependence, and preparing the pupils by communicating clearly the kind of behaviour expected of them and helping them to develop the necessary skills. Such preparation could include the following:

- Organising entertaining and meaningful activities that help to generate a sense of unity and community among pupils.

- Integrating communication skills and social development into all teaching and learning strategies.

- Considering reward and task structure. If it is possible to give pupils some choice of topic or task, this may be intrinsically motivating, rendering external reward unnecessary. If teachers choose to use rewards, care should be taken that the rewards do not take precedence over the learning achievement itself, and that the supportive, cooperative atmosphere of the classroom is not undermined by competition.

5. At the beginning of the lesson, fully explain and introduce the concept of cooperative learning and the material that will be provided to pupils. Repeat the explanation with emphasis on what is expected of pupils. This includes explaining the pupils' roles in the cooperative learning style and answering any questions they might have about cooperative learning as a learning strategy or the educational material. Separate the class into the desired groups and explain the specific cooperative learning approach that will be used.

6. Monitor the pupils to verify their understanding and their use of the preliminary factors of cooperative learning: interdependence, promotive interaction, group and individual accountability, interpersonal and small group skills and group processing. Teachers should provide assistance to pupils if it is requested. Other assistance might include repeating instructions, clarifying goals, asking students guiding questions or intervening if they are not cooperating with each other. This might include a form of assessment to ensure that all pupils have achieved their learning objectives.

7. The lesson should conclude and be summarised, making sure that the teacher and the pupils, especially the pupils, evaluate what has been learned, the strategies employed and their progress in working together cooperatively.

8. After the lesson has ended, the teacher should critically reflect on the strong points of the lesson and its weaknesses. The teacher should then be able to identify ways of improving the lesson plan, implementation, the introduction and monitoring of tasks and the conclusion of the lesson. This will enable the teacher to perfect his or her use of cooperative learning.

Suggestions for Further Research

A number of possibilities can be suggested for further research to build on the contribution of this study:

- Further research could extend the inquiry to include other settings. For example, it would be valuable to investigate CL in the context of Saudi girls' schools. Women teachers in Saudi Arabia are trained separately from men and some reports have compared the qualifications of women teachers, and the quality of their training unfavourably to those of men (Albahiri, 2010). Differences in training may result in different understandings of CL. At the same time, the socialisation of girls to be less assertive and competitive than boys may be conducive to cooperative behaviours among pupils. Exploration of CL in an all-female setting would therefore provide an interesting counterpoint to the findings of this study.

It would also be of interest to conduct a similar study to the present one, in an urban setting, where schools may in some ways be better equipped, but also suffer from the problem of large class sizes. In such schools, therefore, implementation of CL may face different constraints and facilitators from the rural schools discussed here.

Another potential extension of this study would be to secondary school settings, where curriculum and examination pressure may be greater than in primary schools, yet schools may have benefited more from educational technologies, having been earlier targets of such initiatives as the King Abdullah Project (Alyami, 2014)

- It would also be worth exploring the attitudes towards CL, and role in encouraging or discouraging it, of other stakeholders, particularly head teachers. They are important figures in the Saudi education system, as the link in the system hierarchy between teachers and the education authorities. Their power over teachers and accountability for school outcomes, on the one hand, and their role in passing instructions down the hierarchy and submitting resource requests upward, on the other, imply that their understanding of and support for CL would be a crucial factor in its successful implementation.

- A factor perceived by participants in this study to have the potential to support CL was Islam. Participants emphasized the value placed on cooperation in Islam, and given the primacy of Islam in Saudi culture, institutions and social life, the success of any education initiative, including CL, is likely to depend on the extent to which teachers, pupils and the wider society are convinced of its compatibility with Islam. It would be a worthwhile theoretical endeavour, therefore, to explore further the notion of co-operation in Islam, in an attempt to develop an Islamic perspective on CL. This in turn may indicate the potential role of Islamic values in developing CL in the Saudi context.

- A key finding of this research concerned the quantitative and qualitative shortcomings of teacher training and professional development. The survey revealed widespread misunderstandings of CL, while interview participants indicated that pre-and in-service training on CL had been, if available at all, brief, overly theoretical, unmemorable and not consolidated. To validate these results, further research is needed to investigate teacher training content and methods in relation to CL, with

particular reference to the linkage of theory and practice and incorporating the perceptions and experiences of trainee teachers, serving teachers, and trainers. A further study might be to develop and test a training intervention on CL. Such a study might take a quasi- experimental form, comparing the knowledge, skills and attitudes towards CL of teachers who have and have not attended the training, or of a single cohort of teachers before and after training.

Finally, while the foregoing suggestions have been focused on the Saudi context, building directly from the outcomes of the present study, it is important to recognise the need to continue and extend CL research in a variety of cultural contexts. Such studies will provide further insights into the complex array of factors influencing CL implementation, potentially enriching CL theory, as well as contributing to practice.

References

Abdul-Rahman, M. S. (Ed.) (2009) *Tafsir Ibn Kathir.* London: MSA Publication Limited.

Aboalfaraj, H. S. (2004) *Teachers' performance in secondary schools for girls in Jeddah City, the Kingdom of Saudi Arabia.* Unpublished PhD thesis, University of Manchester.

Adler, P. A. & Adler, P. (1985) From idealism to pragmatic detachment: the academic performance of college athletes. *Sociology of Education*, 58(4), 241-250.

Ahlquist, S. (2015) The Storyline approach: promoting learning through cooperation in the second language classroom, *Education 3-13: International Journal of Primary, Elementary and Early Years Education,* 43(1), 40-54.

Alagla, A. (2001) *Introducing computer supported CL to the Curriculum of Islamic Studies and Arabic Language in Arabic Language Institute for Non-Arabic Speakers: teachers' perceptions, students' responses and administrators' views.* Unpublished PhD thesis, University of Hull.

Alaisa, A. (2009) *Education reform in Saudi Arabia*. Lebanon: Dar Alsagi. (In Arabic.)

Albahiri, M. (2010) *Online CPD for teachers in Saudi Arabia: aptitude, attitudes and barriers*. PhD thesis, University of Strathclyde Glasgow.

Albuhairi, S. (2009) *The implementation of cooperative learning in teaching Arabic language in primary schools in Saudi Arabia: current status and barriers.* Unpublished MA dissertation, Southampton University.

Aldeep, M. (2004) *Studies in the methods of cooperative learning*. Cairo: Alam Alkotob. (In Arabic.)

Algarfi, A. (2005) *Investigating the possibilities of cooperative learning within the school system of Saudi Arabia: the perceptions of teachers*. Unpublished M.A dissertation, University of Southampton.

Algarfi, A. (2010) *Teachers' and pupils' perceptions of and responses to cooperative learning methods within the Islamic culture courses in one secondary school in Saudi Arabia*. PhD thesis, University of Southampton.

Al-Gathami, A. (2005) *The story of modernity in Saudi Arabia*, 3rd edition. Casablanca: The Centre of Arabic Culture:

Al-Gathami, A. (2009) *Tribe and tribalism or the identities of the postmodern*. Casablanca: The Centre of Arabic Culture.

Alhaidari, M. S. (2006) *The effectiveness of using cooperative learning to promote reading comprehension, vocabulary, and fluency achievement scores of male fourth- and fifth-grade students in a Saudi Arabian school*. PhD thesis, The Pennsylvania State University.

Al-Hakel, S. (1994) *School administration and its manpower in Saudi Arabia*. Riyadh, Saudi Arabia: Dar AI-Shabel. (In Arabic.)

Al-Hamid M. M. (1996) Schooling and social structure: theoretical perspectives. *International Review of Sociology,* 6(2), 181-189.

Alhamd, M., Alotaibi, B., Motwaly, N. , & Zyadah, M. (2004) *Education in Saudi Arabia*. Riyadh, Saudi Arabia: Alroshed press. (In Arabic.)

Al-Harbi, M. A. (2007) *Short Message Service (SMS) Parser*. Google Patents: US 20070167178 A1.

Alhodithy, A.I.R. (2009) *Exploring cooperative and psychological approaches to learning in the Saudi Arabia school system*. PhD thesis: University of Exeter.

Alhogail, S. (2003) *The law and strategies of Learning in Saudi Arabia*. Riyadh: Alroshed. (In Arabic.)

Alkanem, K., Alsaleh, B., Almogbel, A. & Alruais, A. (2005) *Procedural guide of composition school books*, Ministry of Education in Saudi Arabia: Educational Development Department. (In Arabic.)

Alrasheed, A., Basahi, A., Alowais, A., Alrwaished, M., Alrwaily, M. & Alsuaik, H. (2003) *Study of teaching science in both elementary and middle schools stages in boys and girls schools in Saudi Arabia*. Riyadh: King Abdulaziz City for Science and Technology. (In Arabic.)

Alrasheed, M. (2010) *A History of Saudi Arabia*, 2nd edition. Cambridge: Cambridge University Press.

Alsabti, K. (2012) The Role of the Ministry of Education in the transformation to a knowledge based society. Presented in: *The Saudi International Space and Aeronautics Technology Conference 2012* and the *25th Planetary Congress of the Association of Space Explorers*. Riyadh, November 2012.

Al-Sadaawi, A. S. (2007) *An investigation of performance-based assessment in science in Saudi primary schools.* PhD thesis, Victoria University, Melbourne, Australia.

Al-Sadan, I. (2000) Educational assessment in Saudi Arabian schools. *Assessment in Education: Principles, Policy & Practice,* 7(1)**,** 143-155.

Al-Sayed, A. (1988). An investigation into the current status of English instruction to the Gulf: some comments on the problem and suggestions for solutions. *81-82*, 47-72. Riyadh. (In Arabic.)

Al-Shumaimeri, Y. A. N. (2003) *A study of classroom exposure to oral pedagogic tasks in relation to the motivation and performance of Saudi secondary learners of English in a context of potential curriculum reform*. Unpublished doctoral thesis, University of Leeds.

Al-Sonble, A., AlKateeb, M., Motoaly, M. & Abduljawad, N. (2004) *System of education in Kingdom of Saudi Arabia*, Riyadh: Dar Alkharejy. (In Arabic).

Al-Yahya, M. A. (2004). *Primary education in the Kingdom of Saudi Arabia: its establishment, reality and problems*. Riyadh: Al-Roashd Library. (In Arabic.)

Alyami, R. H. (2014) Educational reform in the Kingdom of Saudi Arabia: Tatweer Schools as a unit of development. *Literacy Information and Computer Education Journal (LICEJ)*, 5(2), 1424-1433.

Alzaidi, A. M. (2008) Secondary school head teachers' job satisfaction in Saudi Arabia: The results of a mixed methods approach. *Annual Review of Education, Communication, and Language Sciences*, *5*, 161-185.

Angell, C. (2014) *Cooperative learning in the classroom*. Master's thesis: Eastern Oregon University.

Antil, L. R., Jenkins, J. R., Wayne, S. K. & Vadasy, P. F. (1998) Cooperative learning: prevalence, conceptualizations, and the relation between research and practice. *American Educational Research Journal,* 35(3)**,** 419-454.

Argyle, M. (1991) *Cooperation, the basis of sociability*. London: Routledge.

Aronson, E., Bridgeman, D. L. & Geffner, R. (1987a) The effects of a cooperative classroom structure on students' behavior and attitudes. *Social psychology of education: theory and research.*

Aronson, E., Bridgeman, D. L. & Geffner, R. (1987b) Interdependent interactions and prosocial behavior. *Journal of Research and Development in Education*, 12(1), 16-27.

Ary, D., Jacobs, L.C., Razavieh, A. (1996). *Introduction to research in education*, 5th edition. Forth Worth, Rinehart and Winston.

Ashley-Montagu, M. F. (1966) *On being human*. London: Hawthorn.

Ashman, A. F. & Gillies, R. M. (2003) Peer support networks in school and community settings. In Gillies, R. M. & Ashman, A. F. (eds) *Co-operative learning: the social and intellectual outcomes of learning in groups*. London: RoutledgeFalmer, 196-209.

Ayres, P., Sawyer, W. & Dinham, S. (2004) Effective teaching in the context of a grade 12 high-stakes external examination in New South Wales, Australia. *British Educational Research Journal*, 30(1), 141-165.

Baines, E., Blatchford, P., Galton, M. & Kutnick, P. (2003a) Toward a social pedagogy of classroom group work. *International Journal of Educational Research,* 39(1-2)**,** 153-172.

Baines, E., Blatchford, P. & Kutnick, P. (2003b) Changes in grouping practices over primary and secondary school. *International Journal of Educational Research,* 39(1-2)**,** 9-34.

Bandura, A. (1977) *Social learning theory*. New York: General Learning Press.

Basamh, S. A. (2002). *Principals' and teachers' attitudes toward implementing cooperative learning methods at girls' private middle schools in Jeddah, Saudi Arabia.* Unpublished doctoral dissertation, University of Pittsburgh.

Beck, L. & Chizhik, A. (2013) Cooperative learning instructional methods for CS1: design, implementation, and evaluation. *ACM Transactions on Computing Education*, 13(3), 1-21.

Bell, B. & Cowie, B. (1999) Researching formative assessment. In Loughran, J. (ed) *Researching teaching: methodologies and practices for understanding pedagogy*. London: Falmer Press, 198.

Bjerke, B. & Al-Meer, A. (1993) Culture's consequences: management in Saudi Arabia. *Leadership & Organization Development Journal*, 14(2), 30-35.

Blaikie, N. (1993) *Approaches to social enquiry*. Cambridge: Polity Press.

Blatchford, P. & Baines, E. (2015) *Improving collaborative group work*. Available online: http://www.spring-project.org.uk/AbstractCLS.pdf/ [Accessed 19/03/2015].

Blatchford, P., Galton, M., Kutnick, P. & Baines, E. (2005) Improving the effectiveness of pupil groups in classrooms. *Final Report to ESRC (L139 25 1046).*

Blatchford, P., Kutnick, P. & Baines, E. (2007). Pupils grouping for learning in classrooms: results from the UK SPRinG study. Presented at: *International Perspective on Effective Groupwork: Theory, Evidence and Implications.* American Educational Research Annual Meeting, Chicago, April 2007.

Bossert, S. T. (1988) Cooperative activities in the classroom. *Review of Research in Education*, 15, 225-250.

Brislin, R. W. (1970) Back-translation for cross-cultural research. *Journal of Cross-cultural Psychology.* 1(3)**,** 185-216.

Brody, C. M. (1998) The significance of teacher beliefs for professional development and cooperative learning. In Brody, C. M. & Davidson, N (Eds) *Professional development for cooperative learning: issues and approaches.* Albany: State University of New York Press, 25-48.

Brody, C. M. (2004) The instructional design of cooperative learning for teacher education In Cohen, E. G., Brody, C. M. & Sapon-Shevin, M. (Eds) *Teaching cooperative learning: the challenge for teacher education.* Albany: State University of New York Press, 185-194.

Brody, C. M. & Davidson, N. (1998) *Professional development for cooperative learning: issues and approaches.* Albany: State University of New York Press.

Brody, C. & Nagel, N. (2004) Teacher decision making for cooperative learning in a preservice master's program. In Cohen, E. G., Brody, C. M. & Sapon-Shevin, M. (Eds) *Teaching cooperative learning: the challenge for teacher education.* Albany: State University of New York Press, 31-46.

Brubacher, M. (2004) The role of the classroom teacher in teacher education, in a perspective master's programme. In Cohen, E. G., Brody, C. M. & Sapon-Shevin, M. (Eds) *Teaching cooperative learning: the challenge for teacher education.* Albany: State University of New York Press, 211-217.

Bryman, A. (2008) *Social research methods,* 3rd edition. Oxford: Oxford University Press.

Bryman, A. (2012) *Social research methods*, 4th edition. Oxford: Oxford University Press.

Burns, R. C. (2000) *Data management in a distributed file system for storage area networks.* PhD dissertation, University of California, Santa Cruz.

Burrell, G. & Morgan, G. (1979) *Sociological paradigms and organisational analysis.* London: Heinemann.

Cameron, J. & Cowan, R. (1983) *International handbook of education systems.* Chichester: John Wiley.

Carmines, E. G. & Zeller, R. A. (1979) *Reliability and validity assessment.* Sage Publications: Beverly Hills.

Chambers, B. & Abrami, P.C. (1991) The relationship between student team learning and achievement, causal attributions, and affect. *Journal of Educational Psychology,* 83(1), 140-146.

Cohen, E. G. (1994a) *Designing groupwork: strategies for the heterogeneous classroom*, 2nd edition. New York: Teachers College Press.

Cohen, E. G. (1994b) Restructuring the classroom: conditions for productive small groups. *Review of Educational Research*, 64(1), 1-35.

Cohen, E. G., Lotan, R. A., Scarloss, B. A. & Arellano, A. R. (1999) Complex instruction: equity in cooperative learning classrooms. *Theory into Practice*, 38(2), 80-86.

Cohen, L., Manion, L. & Morrison, K. (2007) *Research methods in education*, 6th edition. London: Routledge.

Cooper, D. R. & Schindler, P. S. (2008) *Business research methods,* 10th edition. Boston: McGraw-Hill.

Cowie, H. (1995) Cooperative group work: a perspective from the UK. *International Journal of Educational Research*, 23(3), 227-238.

Cowie, H. & Rudduck, J. (1988) Learning together-working together. In *Vol. 1: Cooperative Group Work - An Overview* and *Vol. 2: School and Classroom Studies*. London: BP Educational Services.

Creswell, J. W. (2007) *Qualitative inquiry and research design: choosing among five approaches*, 2nd edition. Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2009) *Research design: qualitative, quantitative, and mixed methods approaches*, 3rd edition. Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2014) *Research design: qualitative, quantitative and mixed methods approaches*, 4th edition. Thousand Oaks, CA: Sage Publications.

Creswell, J. W. & Clerk, V. L. P. (2011) *Designing and Conducting Mixed Methods Research, 2nd edition.* London: Sage Publications.

Crotty, M. (1998) *The foundations of social research: meaning and perspective in the research process*. London: Sage.

Denzin, N. K. & Lincoln, Y. S. (eds) (2005) *The Sage handbook of qualitative research*, 3rd edition. Thousand Oaks, CA: Sage Publications.

Deutsch, M. (1949a) A theory of cooperation and competition. *Human Relations*, 2(2), 129-152.

Deutsch, M. (1949b) An experimental study of the effects of cooperation and competition upon group processes. *Human Relations*, 2(3), 199-232.

Deutsch, M. (1962) Cooperation and trust: some theoretical notes. In Jones, M. R. (Ed) *Nebraska symposium on motivation*. Lincoln, NE: University of Nebraska Press, 275-319.

De Vaus, D. A. (2002) *Surveys in social research*. London: Routledge.

Deveney, B. (2005) An investigation into aspects of Thai culture and its impact on Thai students in an international school in Thailand. *Journal of Research in International Education,* 4(2)**,** 153-171.

Devries, D. & Edwards K. (1974) Student Teams and learning games: their effects on cross-race and cross-sex interaction. *Journal of Educational Psychology*, 66(5), 741-749.

Dewey, J. (1897) *The School Journal, Volume LIV, Number 3* (January 16, 1897), 77-80. Available online: http://www.infed.org/archives/e-texts/e-dew-pc.htm/ [Accessed 16/08/2014].

Dörnyei, Z. (2007) *Research methods in applied linguistics*. Oxford: Oxford University Press.

Easterby-Smith, M., Thorpe, R. & Lowe, A. (2002) *Management research: an introduction*. London: Sage Publications.

Economic and Social Research Council (2009) *Research Ethics framework*. Available online: http://www.esrc.ac.uk/_images/framework-for-research-ethics_tcm8-33470.pdf/ [Accessed 22/02/2013].

Economic and Social Research Council (2015) *Framework for research ethics*. Available online: http://www.esrc.ac.uk/_images/framework-for-research-ethics_tcm8-33470.pdf/ [Accessed 05/01/2015].

Fellows, R. & Liu, A. (2008) *Research methods for construction*, 3rd ed, Chichester, Wiley-Blackwell.

Elyas, T. & Picard, M. (2010) Saudi Arabian educational history: impacts on English language teaching. *Education, Business and Society: Contemporary Middle Eastern Issues*, 3(2), 136-145.

Farzaneh, N. & Nejadansari, D. (2014) Students' attitude towards using cooperative learning for teaching reading comprehension. *Theory and Practice in Language Studies*, 4(2), 287-292.

Fish, Wade W. (2006) Cooperative learning: why the reluctance? *Academic Exchange Quarterly*, 10(3), 105-109.

Foote, C. J. & Cook-Cottone, C. P. (2004) Field experiences in high-need, urban settings: analysis of current practice and insights for change. *The Urban Review,* 36(3)**,** 189-210.

Fraenkel, J. R., Wallen, N. E & Hyun, H. H. (2011) *How to design and evaluate research in education*, 8th edition. New York: McGraw Hill.

Fullan, M. (2001) *The new meaning of educational change*, 3rd edition. London: RoutledgeFalmer.

Furr, R. & Bacharach, V. (2008) Item response theory and Rasch models. In Furr, R. & Bacharach, V. (Eds) *Psychometrics: an introduction*. New York: Sage Publications.

Gall, M. D., Gall, J. P. & Borg, W. R. (2003) *Educational research: an introduction*. Boston, MA: Allyn and Bacon.

Geertz, C., 1973. Thick description: toward an interpretive theory of culture. In: C. Geertz. *The interpretation of cultures.* New York: Basic Books, 3–30.

George, D. (2002) From analysis to design: visual communication in the teaching of writing. *College Composition and Communication**, 54(1), 11-39.

Gillies, R. M. (2003) Structuring cooperative group work in classrooms. *International Journal of Educational Research*, 39(1-2), 35-49.

Gillies, R. M. (2007) *Cooperative learning: integrating theory and practice*. London: Sage Publications.

Gillies, R. M. & Ashman A. (eds) (2003) *Cooperative Learning: the social and intellectual outcomes of learning in groups.* London: RoutledgeFalmer.

Gillies, R. M., Ashman, A. & Terwel, J. (eds) (2008) *The teacher's role in implementing cooperative learning in the classroom.* New York: Springer.

Gillies, R. M. & Boyle, M. (2008). Teachers' discourse during cooperative learning and their perceptions of this pedagogical practice. *Teaching and Teacher Education*. 24(5), 1333-1348.

Gillies, R. M. & Boyle, M. (2010) Teachers' reflections on cooperative learning: Issues of implementation. *Teaching and Teacher Education,* 26(4)**,** 933-940.

Gray, C. & Malins, J. (2004) *Visualizing research: a guide to the research process in art and design*. Aldershot: Ashgate.

Grix, J. (2004) *The foundations of research*. London: Palgrave Macmillan.

Grix, J. (2010) *The foundations of research*, 2nd edition. London: Palgrave Macmillan.

Guba, E. G. (1990) *The paradigm dialog*. Newbury Park, CA: Sage Publications.

Guba, E. G. & Lincoln, Y. S (1985) *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

Guba, E. G. & Lincoln, Y. S. (1989) *Fourth generation evaluation*. Newbury Park, CA: Sage Publications.

Guba, E. G. & Lincoln, Y. S. (1994) Competing paradigms in qualitative research. In Denzin, N. K. & Lincoln, Y. S. (eds) *Handbook of qualitative research*. Thousand Oaks: Sage Publications, 105-117.

Guba, E. G. & Lincoln, Y. S. (2004) Competing paradigms in qualitative research. In Hesse-Biber, S. & Leavy, P. (eds) *Approaches to qualitative research*: *a reader on theory and practice*, 17–38. New York: Oxford University Press.

Hammersley, M. (1992) *What's wrong with ethnography? Methodological explorations.* London: Routledge.

Hammersley, M. & Atkinson, P (1995). *Ethnography: principles in practice*, 2nd edition. London: Routledge,

Hammersley, M. & Traianou A. (2007) *Ethics and educational research*. London: TLRP. Available online: http://www.tlrp.org/capacity/rm/wt/traianou/ [Accessed 20/ 10/2014].

Healy, M. & Perry, C. (2000) Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal,* 3(3)**,** 118-126.

Hernon, P. & Schwartz, C. (2009) Reliability and validity. *Library & Information Science Research,* 31(2)**,** 73-74.

Hertz-Lazarowitz, R. & Calderon, M. (1994) Facilitating teachers' power through collaboration: implementing cooperative learning in elementary schools. In Sharan, S. (Ed) *Handbook of cooperative learning methods.* Westport, CT: Praeger Publishers, 300-317.

Hertz-Lazarowitz, R. & Shachar, H. (1990) Teachers' verbal behavior in cooperative and whole-class instruction. In Sharan, S. (Ed) *Cooperative learning: theory and research*. Westport, CN: Praeger Publishers, 77-94.

Hoepfl, M. C. (1997). Choosing qualitative research: a primer for technology education researchers. *Journal of Technology Education*, 9(1), 47-63.

Hofstede, G. H. (1980) *Culture's consequences: international differences in work-related values*. Beverly Hills, CA: Sage.

Hofstede, G. H., Hofstede, G. J. & Minkov, M. (2010) *Cultures and organizations: software of the mind: intercultural cooperation and its importance for survival*, 3rd edition. New York: McGraw-Hill.

Hoon, C. S. (2004) *A Theory of Cooperative Learning as Incentive-Values–Exchange: Studies of the Effects of Task-Structures, Rewards and Ability on Academic and Social-Emotional Measures of Mathematics Learning*. PhD thesis, Murdoch University,

Horney, K. (1937). *The neurotic personality of our time*. New York: Norton

Hsiung, Chin-Min (2012) The effectiveness of cooperative learning. *Journal of Engineering Education*, 101(1), 119-137.

Husserl, Edmund (1931) '*Phänomenologie und Anthropologie*', in Gesammelte Werke, XXVII (ed. T. Nenon and H.R. Sepp), pp. 164–81. Dordrecht: Kluver. (English translation in Husserl, 1981).

Jadwa Investment (2015) *Saudi Arabia's 2015 fiscal budget report*. Available online: www.jadwa.com/en/download/2015-budget/2015-saudi-budget/ [Accessed 01/01/2015].

Johnson, B. (2003) Teacher collaboration: good for some, not so good for others. *Educational Studies*, 29(4), 337-350.

Johnson, D. W. & Johnson, F. P. (2000) *Joining together: group theory and group skills*, 6th edition. Boston, MA: Allyn and Bacon.

Johnson, D. W. & Johnson, F. P. (2003) *Joining together: group theory and group skills*, 7th edition. Boston, MA: Allyn and Bacon.

Johnson, D. W. & Johnson, R. (2003) Controversy and peace education. *Journal of Research in Education*, 13(1), 71-91.

Johnson, D. W. & Johnson, R. (2007) *Creative constructive controversy: intellectual challenge in the classroom*, 4th edition. Edina, MN: Interaction Book Company.

Johnson, D. W. & Johnson, R. T. (1989) *Cooperation and competition: theory and research*. Edina, MN: Interaction Book Company.

Johnson, D. W. & Johnson, R. T. (1990). Using cooperative learning in math. In Davidson, N. (ed) *Cooperative learning in mathematics*. Menlo Park, CA: Addison-Wesley Publishing, 103-125.

Johnson, D. W. & Johnson, R. T. (1999) *Learning together and alone: cooperation, competitive and individualistic learning*, 5th edition. Boston, MA: Allyn and Bacon.

Johnson, D. W. & Johnson, R. T. (2005) Essential components of peace education. *Theory into Practice*, 44(4), 280-292.

Johnson, D. W. & Johnson, R. T. (2008) Social interdependence theory and cooperative learning: the teacher's role. In Gillies, R. M., Ashman, A. & Terwel J. (Eds) *The teacher's role in implementing cooperative learning in the classroom*. New York: Springer, 9-36.

Johnson, D. W., Johnson, R. T. & Holubec, E. J. (1994) *Cooperative learning in the classroom*. Alexandria, VA: ASCD.

Johnson, D. W., Johnson, R. T. & Holubec, E. J. (1998) *Cooperation in the classroom*. Boston, MA: Allyn and Bacon.

Johnson, D. W., Johnson, R. T. & Holubec, E. J. (1998) *Cooperation in the classroom*. Edina, MN: Interaction Book Company.

Johnson, P. A. (1999) Problem-based, cooperative learning in the engineering classroom. *Journal of Professional Issues in Engineering Education and Practice,* 125(1)**,** 8-11.

Johnson, R. T. & Johnson, D. W. (1994) An overview of cooperative learning, In Thousand, J., Villa, A., & Nevin, A. (eds) *Creativity and collaborative learning*. Baltimore, Maryland: Brookes Publishing.

Jolliffe, W. (2007) *Cooperative learning in the classroom: putting it into practice.* London: Paul Chapman.

Jolliffe, W. (2010) *The implementation of cooperative learning: a case study of cooperative learning in a networked learning community*. PhD thesis: University of Hull.

Jolliffe, W. (2011) Co-operative learning: making it work in the classroom. *Journal of Cooperative Studies,* 44 (3), 31-42.

Jolliffe, W. (2015) Bridging the gap: teachers cooperating together to implement cooperative learning. *Education 3-13: International Journal of Primary, Elementary and Early Years Education,* 43(1), 70-82.

Kagan, S. (1985) *Cooperative learning resources for teachers*. Riverside, CA: University of California.

Kagan, S. (1994) *Cooperative learning*. San Juan Capistrano, CA: Kagan Publishing.

Kagan, S. & Kagan, M. (1994) The structural approach: six keys to cooperative learning. In Sharan, S. (Ed) *Handbook of cooperative learning methods*. Westport, CT: Greenwood Press, 261-283.

Kern, A.L., Moore, T.J. & Akillioglu, F. C. (2007) *Cooperative learning: developing an observation instrument for student interactions.* Frontiers in Education (FiE) Conference, Milwaukee, WI.

King Abdullah Tatweer Project, (2008) http://www.tatweer.edu.sa/. [accessed 24/02/2012]

King, N. (1994) The qualitative research interview. In Cassell, C. M. & Symon, G. (Eds) *Qualitative methods in organizational research: a practical guide*. London: Sage, 14-36.

Klingner, J. K., Vaughn, S. & Schumm, J. S. (1998) Collaborative strategic reading during social studies in heterogeneous fourth-grade classrooms. *Elementary School Journal*, 99(1), 3–21

Knodel, J. (1993) The design and analysis of focus group studies in social science research. In Morgan, D. (Ed) *Successful focus groups: advancing the state of the art*. Newbury Park, CA: Sage Publications, 35-50.

Krippendorff, K. (2004) *Content analysis: an introduction to its methodology.* London: Sage Publications.

Kumar, R. (1999) *Research methodology: a step-by-step guide for beginners*. Thousand Oaks, CA: Sage Publications.

Kvale, S. (1996) *Interviews: an introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage Publications.

Kvale, S. (2007) *Doing interviews*. Thousand Oaks, CA: Sage Publications.

Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E. & Dochy, P. (2013) A meta-analysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review* 10, 133-149.

Layder, D. (1993) *New strategies in social research.* Cambridge: Polity.

Lehraus, K. (2015) How to integrate cooperative skills training into learning tasks: an illustration with young pupils' writing. *Education 3-13: International Journal of Primary, Elementary and Early Years Education,* 43(1), 55-69.

Lerouge, C., Blanton, J. E. & Kittner, M. (2004) A causal model for using collaborative technologies to facilitate student team projects. *Journal of Computer Information Systems,* 45(1), 30-37.

Lewin, K. (1935) *A dynamic theory of personality*. New York: McGraw-Hill.

Lewin, K. (1948) *Resolving social conflicts; selected papers on group dynamics.* Gertrude W. Lewin (ed.). New York: Harper & Row, 1948.

Light, R., Singer, J. & Willett, J. (1990) *By design: conducting research on higher education*. Cambridge, MA: Harvard University Press.

Mack, L. (2010) The philosophical underpinnings of educational research. *Polyglossia,* 19**,** 5-11.

Madden, N. A., Stevens, R. J. & Slavin, R. E. (1986) *A comprehensive cooperative learning approach to elementary reading and writing: effects on student achievement (Technical Report No. 2).* Center for Research on Elementary and Middle Schools, Baltimore, MD: Johns Hopkins University.

Mandel, S. M. (2003) *Cooperative work groups: preparation students for the real work.* California: Corwin Press.

Matthews, B. & Ross, L. (2010) *Research methods: a practical guide for the social sciences*. Harlow: Pearson Education.

Maxwell, J. A. (1996) *Qualitative research design: an interactive approach*. Thousand Oaks, CA: Sage.

May, T. (1997) *Social research: issues, methods and process*, 4th edition. Maidenhead: Open University Press.

Maykut, P. S. & Morehouse, R. (2002) *Beginning qualitative research: a philosophic and practical guide*. London: Falmer Press.

Mayo, E. (1933) *The human problems of an industrial civilization*. New York: Macmillan.

McMillan, J. (2000) *Educational research: fundamentals for the consumer, 3rd edition*. New York: Longman.

Merriam, S. B. (1988) *Case study research in education: a qualitative approach*. San Francisco, CA: Jossey-Bass Publishers.

Merriam, S. B. (2002). Assessing and evaluating qualitative research. In Merriam, S. B (Ed) *Qualitative research in practice: examples for discussion and analysis.* San Francisco: Jossey-Bass, 18-39.

Merriam, S. B. & Simpson, E. L (1995) *A guide to research for educators and trainers of adults,* 2nd edition. Malabar, FL: Krieger.

Miles, M. B. & Huberman, A. M. (1994) *Qualitative data analysis: an expanded sourcebook*, 2nd edition. Thousand Oaks, CA: Sage.

Ministry of Education. (1980) *Education Policy in the Kingdom of Saudi Arabia*. Riyadh: Ministry of Education. Available online: faculty.mu.edu.sa/download.php?fid=101806/ [Accessed 05/01/2015]. (In Arabic.)

Ministry of Education. (2007) *The overall project to develop curricula*. Riyadh: Ministry of Education. (In Arabic.)

Monette, D., Sullivan, T. & DeJong, C. (1994) *Applied social research: a tool for the human services*, 3rd edition. Fort Worth, TX: Harcourt Brace.

Morgan, B. M. (2003) Cooperative learning in higher education: undergraduate student reflections on group examinations for group grades. *College Student Journal*, 37(1), 40-50.

Morse, J. M. (1991) Approaches to qualitative-quantitative methodological triangulation. *Nursing Research,* 40(2)**,** 120-123.

Motoally, M. (2004) The theoretical frame of the educational system. In Alsonble, M. (Ed) *System of education in Kingdom of Saudi Arabia.* Riyadh: Daar Alkhareji. (In Arabic.)

Mustafa, R. E. (2011) The P.O.E.M.s of educational research: a beginner's concise guide, *International Education Studies*, 4(3), 23-30. Available online: www.ccsenet.org/journal/index.php/ies/article/viewFile/11517/8102/ [Accessed 03/05/2014].

Nielson, M. E. & Buchanan, N. K. (1991). Evaluating gifted programs with locally constructed instruments. In Buchanan, N. K. & Feldhusen, J. F. (Eds) *Conducting research and evaluation in gifted education.* New York: Teachers College Press, 275-310.

Niemi, J. R. (2009) *An examination of cooperative learning models and achievement in middle and secondary level social studies*. PhD thesis: Walden University.

Nuntrakune, T. (2008) *Cooperative learning in Thailand: professional development to enhance primary education*. Unpublished doctoral dissertation. Australia: Queensland University of Technology.

Okely, J. (1994) Thinking through fieldwork. In Bryman, A. & Burgess, R. G. (Eds) *Analysing qualitative data*. London: Routledge, 18-34.

Palincsar, A. S. (1998) Social constructivist perspectives on teaching and learning. *Annual Review of Psychology*, 49(1), 345-375.

Patton, M. Q. (2002) *Qualitative research and evaluation methods*, 3rd edition. Thousand Oaks, CA: Sage Publications.

Pescarmona, I. (2015) Status problem and expectations of competence: a challenging path for teachers. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 43(1), 30-39.

Phiri, P.M. (2012) *Bridging the gap: strengths and weaknesses of qualitative and quantitative approaches to research: underpinning technical and epistemological and ontological considerations. Implications for the conduct of a research project*. Available online: http://www.academia.edu/760652/Bridging_the_Gap_Strengths_and_weaknesses_of_qualitative_and_quantitative_approaches_to_research_underpinning_technical_and_epistemological_and_ontological_considerations._Implications_for_the_conduct_of_a_research_project/ [Accessed 06/03/2014].

Piaget, J. (1932) *The language and thought of the child*. London: Routledge and Kegan Paul.

Plowright, D. (2011) *Using mixed methods: frameworks for an integrated methodology*. London: Sage Publications.

Ponterotto, J. G. (2005) Qualitative research in counseling psychology: a primer on research paradigms and philosophy of science. *Journal of Counseling Psychology,* 52(2)**,** 126-136.

Popper, K. R. (1959) *The logic of scientific discovery*. London: Hutchinson and Co.

Pring, R. (2000) The 'false dualism' of educational research. *Journal of Philosophy of Education*, 34(2), 247-260.

Putnam, J. W. (1998). The movement toward teaching and learning in inclusive classrooms. In Putnam, J. W. (Ed) *Cooperative learning and strategies for inclusion*. Baltimore, MD: Brookes, 1-16.

Queen, S. (2009) *The effect of cooperative learning and traditional strategies on academic performance in middle school language arts*. PhD thesis: Walden University.

Remenyi, D., Williams, B., Money, A. & Swartz, E. (1998) *Doing research in business and management: an introduction to process and method*. London: Sage.

Robson, C. (2002) *Real world research*. Oxford: Blackwell.

Rojas-Drummond, S. M. & Mercer, N. (2003) Scaffolding the development of effective collaboration and learning. *International Journal of Educational Research*, 39(1-2), 99-111.

Rolheiser, C. & Anderson, S. (2004) Practices in teacher education and cooperative learning at the University of Toronto. In Cohen, E. G., Brody, C. M. & Sapon-Shevin, M. (eds) *Teaching cooperative learning: the challenge for teacher education*. Albany: State University of New York Press, 13-30.

Rudner, L. M. & Schafer, W. D. (2001) *Reliability*. ERIC Digest. College Park, MD: ERIC Clearinghouse on Assessment and Evaluation.

Rugh, W. A. (2002) Education in Saudi Arabia: choices and constraints. *Middle East Policy*, (9)2, 40-55.

Rutter, M. & Maughan, B. (2002) School effectiveness findings 1979–2002. *Journal of School Psychology*, 40(6)**,** 451-475.

Ryan, R. M., Connell, J. P. & Deci, E. L. (1985) A motivational analysis of self-determination and self-regulation in education. In Ames, C. & Ames, R. E. (eds) *Research on motivation in education: the classroom in milieu*. New York: Academic Press, 13-51.

Salomon, G. (1991). Transcending the qualitative-quantitative debate: the analytic and systemic approaches to educational research. *Educational Researcher*, 20(6), 10-18.

Sandberg, J. (2005) How do we justify knowledge produced within interpretive approaches? *Organizational Research Methods,* 8(1)**,** 41-68.

Saudi Arabian Cultural Mission (1991) *Education in Saudi Arabia.* Washington DC: Saudi Cultural Mission.

Saudi Arabian Cultural Mission (2006) *Educational system in Saudi Arabia*. Washington DC: Saudi Cultural Mission.

Saudi Arabian Embassy (2000) *Education in Saudi Arabia. For the record, Saudi Arabia.* London: Saudi Arabian Cultural Mission.

Saudi Arabian Embassy (2003) *Education in Saudi Arabia*. Washington, DC: Saudi Arabian Cultural Mission.

Saunders, M., Lewis, P., Thornhill, A. (2009) *Research Methods for Business Students*, 5th edition. Pearson Education Limited.

Scott, D. & Usher, R. (1996) *Understanding educational research.* London: Routledge.

Shaaban, K. A. & Ghaith, G. M. (2000) Student motivation to learn English as a foreign language. *Foreign Language Annals,* 33(6)**,** 632-644.

Sharan, S. & Sharan Y. (1976) *Small Group Teaching*. Englewood Cliffs, NJ: Educational Technology Publications.

Sharan, S. & Sharan, Y. (1992) *Expanding cooperative learning through group investigation*. Colchester, VT: Teachers College Press.

Sharan,Y. (2015) Meaningful learning in the cooperative classroom. Education 3-13: *International Journal of Primary, Elementary and Early Years Education*, 43(1), 83-94.

Sharan, Y. & Sharan S. (1994) Group investigation in the cooperative classroom. In Sharan, S. (ed) *Handbook of cooperative learning methods*. Westport, CT: Praeger Publishers, 97-114.

Shoaib A. (2004). *What motivates and demotivates English teachers in Saudi Arabia: a qualitative perspective*. Unpublished PhD thesis, University of Nottingham.

Siegel, C. (2005) Implementing a research-based model of cooperative learning. *The Journal of Educational Research,* 98(6)**,** 339-349.

Silverman, D. (2000) *Doing qualitative research: a political handbook*. London: Sage.

Skinner, B. F. (1974) *About behaviorism.* New York: Knopf.

Slavin, R. (2015) Cooperative learning in elementary schools. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 43(1), 5-14.

Slavin, R. E. (1978) Student teams and comparison among equals: effects on academic performance and student attitudes. *Journal of Educational Psychology*, 70(4), 532-538.

Slavin, R. E. (1980) Cooperative learning. *Review of Educational Research*, 50(2), 315-342.

Slavin, R. E. (1983) *Cooperative learning*. New York: Longman.

Slavin, R. E. (1987) Developmental and motivational perspectives on cooperative learning: a reconciliation. *Child Development*, 58(5), 1161-1167.

Slavin, R. E. (1989) Cooperative learning and student achievement. In Slavin, R. E. (ed) *School and classroom organisation*. Englewood Cliffs, NJ: Lawrence Erlbaum, 17-40.

Slavin, R. E. (1990) *Cooperative learning: theory, research, and practice*. New Jersey: Prentice Hall.

Slavin, R. E. (1995) *Cooperative learning: theory, research, and practice*, 2ⁿᵈ *edition*. Boston, MA: Allyn and Bacon.

Slavin, R. E. (1996) Research on cooperative learning and achievement: what we know, what we need to know. *Contemporary Educational Psychology*, 21(1)**,** 43-69.

Slavin, R. E. (1999) Comprehensive Approaches to Cooperative Learning. *Theory into Practice*, 38(2), 74-80.

Slavin, R. E. (2015) Cooperative learning in elementary schools. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 43(1), 5-14.

Slavin, R. E. & Cooper, R. (1999) Improving intergroup relations: lessons learned from cooperative learning programs. *Journal of Social Issues*, 55(4), 647-663.

Slavin, R. E., Leavey, M. & Madden, N. A. (1986) *Team accelerated instruction: mathematics*. Watertown, MA: Charlesbridge.

SPRinG Project (2015) *SPRinG Project newsletter*. Available online: http://www.spring-project.org.uk/spring-Publications.htm/ [Accessed 19/03/2015].

Stahl, R. J. (1994) *The essential elements of cooperative learning in the classroom*. ERIC Digest.

Stake, R. E. (1995) *The art of case study research*. London: Sage Publications.

Stenbacka, C. (2001) Qualitative research requires quality concepts of its own. *Management Decision*, 39(7), 551-555.

Tashakkori, A. & Teddlie, C. (1998) *Mixed methodology: combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage Publications.

Thorndike, E. L. (1913). *Educational psychology: Vol. 2. The psychology of learning*. New York: Teacher's College Press.

Tran, V. D. (2013), Theoretical Perspectives underlying the application of cooperative learning in classrooms. *International Journal of Higher Education*, 2 (4), 101-115.

Vedder, P. & Veendrick, A. (2003) Reward Structure. *Scandinavian Journal of Educational Research*, 47**,** 529-542.

Veenman, M. V. J., Wilhelm, P. & Beishuizen, J. J. (2004). The relation between intellectual and metacognitive skills from a developmental perspective. *Learning and Instruction*, 14(1), 89-109.

Veenman, S., Kenter, B., and Post, K. (2000) Cooperative learning in Dutch primary classrooms. *Educational Studies*, 26(3), 281-302.

Verma, G. K. & Mallick, K. (1999) *Researching education: perspectives and techniques*. Philadelphia: The Falmer Press.

von Glasersfeld, E. (1995) A constructivist approach to teaching. In Steffe, L. & Gale, J. (Eds) *Constructivism in education*. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 3-16.

Vygotsky, L. S. (1978) *Mind in society: the development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wadsworth Y. (1998) *What is participatory action research?* Action Research International. 1998 Paper 2.

Wallen, N. E. & Fraenkel, J. R. (2001) *Educational research: a guide to the process*. Lawrence Erlbaum Associates

Watson, D., Blakeley, B. & Abbott, C. (1998) Researching the use of communication technologies in teacher education. *Computers & Education,* 30(1-2)**,** 15-21.

Webb, N. M. (1985) Student interactions and learning in small groups: a research summary. In Slavin, R., Sharan, S., Kagan, S., Hertz-Lazarowitz, R., Webb, C. and Schmuck, R. (Eds) *Learning to cooperate, cooperating to learn*. New York: Plenum Press, 148-172.

Weirsma, W. (2000) *Research methods in education: an introduction.* Boston, MA: Allyn and Bacon.

Westergaard, J., Noble, I. & Walker, A. (1989) *After redundancy: the experience of economic insecurity*. Cambridge, UK: Polity.

Willis, J. W. (2007) *The foundations of qualitative research: interpretive and critical approaches*. Thousand Oaks, CA: Sage.

Wilson, N. & McClean, S. (1994) *Questionnaire design: a practical introduction*. Newtownabbey: University of Ulster.

Winter, G. (2000) A comparative discussion of the notion of 'validity' in qualitative and quantitative research. *The Qualitative Report*, Vol. 4. Nos. 3 & 4. Available online: http://www.nova.edu/ssss/QR/QR4-3/winter.html [Accessed 9/06/ 2014].

Yager, R. (1988) On ordered weighted averaging aggregation operators in multi-criteria decision making. *IEEE Transactions on Systems, Man, and Cybernetics*, 18, 183-190

Young, R. A. & Collin, A. (2004) Introduction: constructivism and social constructionism in the career field. *Journal of Vocational Behavior*, (64)3, 373-388.

Appendix 1: Questionnaire

(Questionnaire in English)

This questionnaire is for the purpose of gaining information for research as part of a PhD (please see attached letter for further information). All information is anonymous and no person or institution will be named. By completing this questionnaire, you signal your consent to take part in this research. This questionnaire asks you to provide information about your experience with cooperative learning methods in learning and teaching. All questions can be answered by placing a tick mark in the brackets or boxes provided.

Understanding the Concept of Cooperative Learning

1- Which of the following do you think are included in the cooperative learning concept? Please tick in the box what does apply to your understanding:

No.		Yes	No	Don't Know
1	Cooperative learning is a learning method where small groups of pupils share a task			
2	Cooperative learning requires students to sit in orderly rows			
3	Cooperative learning enables pupils to be the main resources for learning			
4	Cooperative learning minimises the teacher's intervention in learning processes			
5	Cooperative learning requires the teacher to talk most of the lesson time			
6	Cooperative learning enhances pupils' social skills			
7	All you need for cooperative learning to take place is to have the pupils sitting in groups			
8	Cooperative learning gives each pupil a specific role to accomplish within the group task			
9	Cooperative learning increases competition among pupils			
10	Cooperative learning requires pupils to share the same resources and facilities			
11	Cooperative learning is asking pupils to work together without prior preparation			

2- When cooperative learning is going well, which of the following do you think should happen? Please tick in the box that reflects to your understanding:

No.	What should happen	Yes	No	Don't Know
1	Everyone participates			
2	One or two members dominate the discussion			
3	Pupils work as a team			
4	Pupils work in competition with each other			
5	Pupils provide assistance for each other's learning			
6	Pupils work individually to achieve their own goals			
7	Pupils actively listening to each other			
8	Pupils pay great attention to each other'			
9	Pupils together assess the practices that develop their cooperative learning experience.			
10	Pupils need the eacher's permission to talk			

3- How would you rank your understanding of the cooperative learning concept?

Excellent ( )   Above average ( )   Average ( )

Below average ( )   Extremely poor ( )

Part two

Experience of cooperative learning

4- Have you received any training on cooperative learning?

Yes (   )   No (   )

5- If yes, what was the duration of the course?

1 to 5 days ( )   6 to 10 days (   )   11+ (   )

6- Who led the course?

Educational supervisors (   )   a specialist trainer (   )

      teacher ( )   other (…………….) specify:

7- How would you rank the course?

Excellent ( )   Above average ( )   Average ( )
Below average ( )   Extremely poor ( )

8- If you answered question 4 with no, do you know if any courses are provided on cooperative learning?

Yes ( )   No   (   )   Don't Know (   )

9- How frequent is the use of cooperative learning in teaching Arabic language subjects in Saudi primary schools?

very common( )   above average ( )   average ( )

    below average ( )   very rare( )

10- How would you rank the quality of cooperative learning practice in teaching Arabic language subjects in Saudi primary schools?

    Excellent ( )   Above average ( )   Average ( )

    Below average ( )   Extremely poor ( )

11- Do you use cooperative learning in your teaching of Arabic language subjects?

    Yes (   )   No (   )

12- If yes, how often do you use cooperative learning in your teaching?

    Always ( )   Often ( )   Sometimes ( )

      Rarely ( )   Very rare ( )

13- If yes, would you kindly volunteer to be interviewed and observed for the purpose of the research?

    Yes (   )   No (   )

If yes, please provide your details:

Name   School

Part Three

Personal Information

14- Age:

23-32 (   )   33-42 (   )   43-52 (   )   53+ (   )

15- Professional experience:

1-5 years (   )   6-10 years (   )   11-15 years (   )   16 years + (   )

16- Teaching qualification:

Diploma (   )

Bachelor (   )

Master or PhD (   )

Thank you for your cooperation

Appendix 2: Semi structure Interview
b) Supervisors' interview

- ❖ Introduction
- ❖ Thank respondents for their time
- ❖ Mention the nature and importance of the research
- ❖ Assure interviewee of absolute confidentiality

The interview will be conducted with two educational supervisors.

[The following questions are just a guide to possible questions. In semi structured interview, the researcher may pose questions that occur to him during the interview. The wording of questions will not necessarily be the same for all respondents.]

:

1- Tell me about yourself?

- age, experience, qualification

2- Tell me about your understanding of cooperative learning?

- How did you learn about cooperative learning?

3- Tell me about the implementation of cooperative learning

- When a group is going really well, what should be happening?

- Describe successful experience of cooperative learning in your observation?

- What makes CL succeed or fail?

4- Tell me about task preparation.

- How should teachers prepare the lesson?

- What should teachers consider when preparing the task?

5. Tell me about the skills students require to work successfully in groups?

- In a cooperative learning group, what are students responsible for?

- Tell me about teamwork in the groups.

- Tell me about communication skills that pupils should have?

- Tell me about interaction among pupils.

7. Tell me about the students reflecting on their group processes and success in doing the tasks.

- How do you encourage the students to be more reflective about how they worked as individuals and as members of a group?

- evaluate group processes as a whole class activity?

- encourage oral feedback on cooperative experience just completed?

- What is the relationship between self-reflection as a group and future success in groups? What have you observed?

8. What support have you had in developing your experience of cooperative learning?

 - What sort of support is there to develop CL practice?

- What has the ME done for increasing CL practice?

- Universities
- Regional administration of Ed
- Schools
- Teachers

9. Tell me about the difficulties of applying cooperative learning in Saudi Schools.

- Environmental restrictions (time, furniture, etc)

- relating to the range of students

- Curriculum pressures

- Task structure

-How can you overcome particular difficulties?

What stops teachers from implementing cooperative learning?

Appendix 2: Semi-structured Interview

b Teacher interviews- General

❖ Introduction
❖ Thank respondent for his/her time
❖ Mention the nature and importance of the research
❖ Assure interviewee of absolute confidentiality

The interview will be conducted with cooperative learning teachers.

(1) Interview questions:

[The following questions are just a guide to possible questions. In semi structured interview, the researcher may pose questions that occur to him during the interview. The wording of questions will not necessarily be the same for all respondents.]

1. Tell me about yourself.

   - Age, experience, qualification, class size.

   - How often do you use cooperative learning?

   - Day/week/month/year.

   - Specifically in the last month of teaching, how many days would you estimate you have used cooperative learning?

   - In what subjects do you use cooperative learning in your classroom?

2. Tell me about your understanding of cooperative learning.

   - How did you learn about cooperative learning?

3. Tell me about your implementation of cooperative learning.

   - When a group is going really well, what do you see happening?

   - Describe one successful experience.

   - What makes CL succeed or fail?

4. Tell me about task preparation.

   - How do you prepare the lesson?

   - What do you consider when you prepare the task?

5. Tell me about the skills students require to work successfully in groups.

   - In a cooperative learning group, what are students responsible for?

- Tell me about teamwork in the groups.

- Tell me about the communication skills that pupils should have.

- Tell me about interaction among pupils.

6. Tell me about the assessment of students' learning during and after their involvement in a cooperative learning project.

- How do you assess the contribution of individual students?

- Do you give group marks?

7. Tell me about the students' reflecting on their group processes and success in doing the tasks.

- How do you encourage students to be more reflective about how they worked as individuals and as members of a group?

- How do you evaluate group processes as a whole-class activity?

- How do you encourage oral feedback on the cooperative experience just completed?

- What is the relationship between self-reflection as a group and future success in groups? What have you observed?

8. Do you have any external assistance/other adults during your cooperative learning lessons?

- Are there any aids from the school or outside?

If so, what is their role?

- What sort of support is there for developing CL practice?

- What has the Ministry of Education done to increase CL practice in relation to:

  - Universities
  - The regional administration of education
  - Schools
  - Teachers?

9. Tell me about the difficulties of applying cooperative learning in your classroom.

- Environnemental restrictions (time, fourniture, etc.).

- Relating to the range of students.

- Curriculum pressures.

- Task structure.

- What have you done to overcome particular difficulties?

- What causes teachers not to implement cooperative learning?

Appendix 2: Semi structure Interview

c) Teachers' Interview: Pre-lesson
- ❖ Introduction
- ❖ Thank respondents for their time
- ❖ Mention the nature and importance of the research
- ❖ Assure interviewee of absolute confidentiality

The interview will be conducted with five to ten of Arabic language teachers in primary

schools.it will be before observation and based on the questionnaire reply.

(2) Interview Questions:

[The following questions are just a guide to possible questions. In semi structured interview, the researcher may pose questions that occur to him during the interview. The wording of questions will not necessarily be the same for all respondents.]

1- Tell me what is your lesson about?

2- What are the aims of your lesson?

3- How are you going to achieve them?

4- Why are you using cooperative learning?

5- What sorts of preparation have you done to achieve effective use of cooperative

learning?

6- Tell me more about what skills and factors are needed for cooperative learning

to be effective?

7- What would be your role?

8- Tell me about the behaviour and activity that you expect pupils to do to make

cooperative learning work?

9- What are the difficulties in the preparation of cooperative learning?

10- How did you overcome these problems?

11- Have you had any assistance or facilitory aids which make the preparation

easier?

Appendix 2: Semi structure Interview
d) Teachers' interviews: Post-lesson
- ❖ Introduction
- ❖ Thank respondents for their time
- ❖ Mention the nature and importance of the research
- ❖ Assure interviewee of absolute confidentiality

The interview will be conducted with five to ten of Arabic language teachers in primary schools, after the observation and based on observed lesson.

(3) <u>Interview Questions:</u>

[The following questions are just a guide to possible questions. In semi structured interview, the researcher may pose questions that occur to him during the interview. The wording of questions will not necessarily be the same for all respondents.]

12- Tell me, how successful was the lesson?

13- Have you achieved the aims of your lesson? If no, why?

14- Did the lesson go as you planned? If no, why? If yes, how did that happen?

15- Did cooperative learning work? Why?

16- What would you do differently next time to make the use of cooperative learning better?

17- Tell me more about what pupils should do to make the use of cooperative learning better?

18- Were you satisfied about the behaviour and activity of pupils during cooperative learning work? Why?

19- What were the difficulties in the lesson?

20- What behaviour and activities from pupils had a positive impact on the effectiveness of the lesson?

21- What do you need to develop your skills in implementing cooperative learning?

22- What do pupils need to perform better in cooperative learning?

Appendix 3: Observation Protocol

Cooperative Learning Observation Protocol			
Class Level		Date	
Observer		Instructor	
Class Size		Whole Class Demographic Information	
Subject			

Group Specifics

Group Name		Seating Arrangement	
Group Composition (heterogeneous/homogeneous)		Length of Class	
Number of Pupils in Group			
Other			
Cooperative Task (S)			

Preparation and introduction

No		Yes	No	Notes
1	sitting facing each other			
2	The task preparation guarantees each member has a role in the group			
3	Teacher reminds pupils of the behaviour for cooperative learning			
4	Pupils share the same resources and facilities			

Group in action

No		Frequency	Notes
1	Plan task together		
2	Set goals together		
3	Everyone participates		
4	Use group roles		
5	Teacher intervenes when needed		
6	Everyone stays with group on task		
7	Active listening		
8	Use a moderate tone of voice		
9	Encourage each other		
10	Show appreciation		
11	Explain and say why		
12	Give and ask for help from each other		
13	Use "I feel" statement		
14	Complete the whole task		
15	Work as a team		
16	Put ideas together		
17	Summarise ideas together		
18	Reach agreement together		
19	Review the result to assure everyone's understanding		
20	Reflect on progress		

21	Teacher's role is minimal		

Observation Reflection (after the lesson)

Signed:

Observer ………………………………………… Date…………………………………….

Teacher …………………………………………. Date ……………………………………

ETHICAL PROCEDURES FOR RESEARCH AND TEACHING
IN THE
FACULTY OF EDUCATION

PERMISSION TO PROCEED WITH RESEARCH: ETHICAL APPROVAL

Reference Number: 12/005

Name: Saeed Albuhairi

Student No: 200917992

Programme of Study: PhD

Research Area/Title: The necessary preliminary factors for effective implementation of cooperative learning and its prevalence in teaching Arabic language courses in primary schools in Saudi Arabia

Image Permission Form N/A

Name of Supervisor: Professor Mike Bottery

Date Approved by Supervisor: 1 October 2012

Date Approved by Ethics Committee: 28 September 2012

الرقـــم: ٢٢٢٠٧٨٤٢١/٣٦

التاريـخ: ٢٧/١٢/١٤٣٣ هـ

المشفوعات: نشمانه دراسة

الموضوع؛

****

بسم الله الرحمن الرحيم

المكرم مدير مكتب التربية والتعليم بالعرضية الشمالية   وفقه الله

السلام عليكم ورحمة الله وبركاته   وبعد ،،،

تجدون برفقه أداة دراسة بعنوان " العوامل الأولية اللازمة للتطبيق الفعال للتعليم التعاوني ومدى انتشارها في تدريس اللغة العربية في المرحلة الابتدائية في مدارس العرضية الشمالية بإدارة التربية والتعليم بمحافظة القنفذة " دراسة مكملة لمرحلة الدكتوراه للباحث الأستاذ : سعيد صالح البحيري من جامعة هل.

آمل التكرم بتسهيل مهمة الباحث في تطبيق أداة دراسته.

والسلام عليكم ورحمة الله وبركاته ،،،،

مدير التربية والتعليم

محمد بن إبراهيم الزاحمي

☒/ للتخطيط والتطوير – البحوث التربوية
☒/ للباحث / سعيد صالح البحيري

Appendix 6: Sample of Interviews Analysis

	Learning	Recall of information	T4 pre	'CL… relies on students' retention of information, previously covered…
Characteristic of Cooperative learning		the wide range of information sources	*T1 pre*	Students have to …learn from different means and not being limited to the modules…
		goal-oriented	T3 gen	*reach the goals and aims of lesson that teacher wants*
		peer learning	S2; T1 pre; T7 gen	"it is a peer-to-peer learning, and an indirect learning"
	personal	A sense of enjoyment	T7 pre; T4 post	"During class, students are so thrilled to speak, co-operate and participate."
		Confidence	T1pre	CL gives students confidence to research for themselves and reach answer..P1,;
		Independence	T1pre	..to research for themselves and reach answers. It give students the opportunity to look for the answer..p1 "*Students will be able to infer the use of (inna and its sisters) on their own.*" (T7 pre).
		Motivation	*T3 post*	*Most teachers use ordinary methods, so using this one will make everyone motivated*
	Interpersonal	Cooperative, class-teacher	T1 and T4	*will be achieved by cooperation between the class as a group and the teacher. So, if there is cooperation, the aims would be achieved.*"

		Teamwork	T7pre	*"is more about teamwork and students will benefit more by interacting with each other"* (T6 pre)
		Competition (between groups/individual)	T3pre	*"CL is one of the best teaching methods for a number of reasons: it creates a sense of competition in each student, each student wants to be the best member in his group."*