The Effect of Peer-Collaborative Dialogue on Saudi EFL Students’ Reading Comprehension in Synchronous Computer-Mediated Communication

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Abstract
This study investigated the effect of peer collaborative dialogue carried out in the text-based synchronous computer-mediated communication (SCMC) on the reading comprehension of EFL female students. Additionally, the study elicited EFL students’ attitudes toward dyadic collaborative discussions in SCMC during reading comprehension activities. The sample of the study comprised 36 Saudi EFL female students at Shaqra University. They were divided into two groups: an experimental group consisting of 18 students, forming nine pairs, to perform reading activities dialogically in Moodle and a control group of 18 students to perform reading activities individually in classrooms. The researcher used pre-post reading comprehension tests and a scale of SCMC-based dialogical collaborative reading attitudes as research instruments to collect data. Data were analyzed using means and standard deviation, an independent sample t-test, a paired sample t-test, an Analysis of Variance test (ANOVA) and a one sample t-test. The findings revealed that there was a statistically significant improvement in the post-test average scores of the experimental group, which indicated the effectiveness of text-based dyadic collaborative dialogue on reading comprehension. Additionally, compared to other reading skills, making inferences skill was revealed to be the skill most affected by dyadic dialogues in SCMC. Besides, the participants exhibited positive attitudes toward their collaborative dialogues with peers in SCMC to foster their reading comprehension. Finally, pedagogical implementations and recommendations for future studies were suggested to explore the area of SCMC-based collaborative dialogue on language learning.

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The final copy of this paper has been examined by the signatories, and we found that both the content and the form meet the acceptable presentation standards of scholarly work in the above mentioned discipline.

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Abstract

This study investigated the effect of peer collaborative dialogue carried out in the text-based synchronous computer-mediated communication (SCMC) on the reading comprehension of EFL female students. Additionally, the study elicited EFL students’ attitudes toward dyadic collaborative their discussions in SCMC during reading comprehension activities. The sample of the study comprised 36 Saudi EFL female students at Shaqra University. They were divided into two groups: an experimental group consisting of 18 students, forming nine pairs, to perform reading activities dialogically in Moodle and a control group of 18 students to perform reading activities individually in classrooms. The researcher used pre-post reading comprehension tests and a scale of SCMC-based dialogical collaborative reading attitudes as research instruments to collect data. Data were analyzed using means and standard deviation, an independent sample t-test, a paired sample t-test, an Analysis of Variance test (ANOVA) and a one sample t-test. The findings revealed that there was a statistically significant improvement in the post-test average scores of the experimental group, which indicated the effectiveness of text-based dyadic collaborative dialogue on reading comprehension. Additionally, compared to other reading skills, making inferences skill was revealed to be the skill most affected by dyadic dialogues in SCMC. Besides, the participants exhibited positive attitudes toward their collaborative dialogues with peers in SCMC to foster their reading comprehension. Finally, pedagogical implementations and recommendations for future studies were suggested to explore the area of SCMC-based collaborative dialogue on language learning.

**Key words**: Peer-collaborative dialogue, Synchronous computer-mediated communication, reading comprehension, text-based online chat, reading activities
مستخلص الدراسة

هدفت هذه الدراسة إلى الكشف عن فعالية الحوار التعاوني بين الأقران الذي تم إجراؤه في وسيلة تواصل تزامنية نصية عبر الحاسب على مهارة استيعاب المقروء لدى طالبات اللغة الإنجليزية، كما استهدفت الدراسة استنباط مواقفهم تجاه حواراتهم التعاونية مع أقرائهن ونقاشاتهم في وسيلة تواصل تزامنية أثناء أداء تمارين استيعاب المقروء. تكُنفت عينة الدراسة من 36 طالبة تخصص لغة إنجليزية في جامعة شقراء، ومنقسمة على مجموعتين (تجريبيتين وضابطتين). تكُنفت المجموعة التجريبية من 18 طالبة تم تقييمها إلى تسع ثنائيات لأداء أنشطة استيعاب المقروء بشكل حواري في برنامج (موديل) بينما بلغت المجموعة الضابطة نفس العدد لأداء الأنشطة في الفصول الدراسية بشكل فردي. ولجمع البيانات، فقد صممت الباحثة اختبار استيعاب المقروء القبلي والبعدي ومقياس المواقف تجاه القراءة الحوارية التفاعلية القائمة وسيلة تواصل تزامنية. تم تحليل البيانات باستخدام تحليل المتوسط الانحراف المعياري وتقييمات (ت) للعينات المستقلة، وتقييمات (ت) للعينات المتراكبة وتقييمات تحليل التباين الاحادي وتكيف (ت) للعينات الواحدة. أظهرت النتائج وجود تحسن ملحوظ ذو دلالة إحصائية في متوسط درجات الاختبار البعدي للمجموعة التجريبية والذي ذُكِّر على فعالية الحوار التعاوني الثنائي في وسيلة تواصل تزامنية نصية عبر الحاسب على مهارة استيعاب المقروء. كما أشارت النتائج إلى أن أكثر المهارات تأثر بشكل إيجابي نتيجة تطبيق الحوار التعاوني الثنائي في وسيلة اتصال تزامنية عبر الحاسب كانت مهارة الاستلقاء المنطيقي. إضافة إلى ذلك، فقد أظهرت الطالبات موافق إيجابية تجاه حواراتهم التعاونية مع أقرائهن في وسيلة التواصل التزامنية لتعزيز مهارة استيعاب المقروء لديهم، وأخيراً، في ضوء النتائج التي توصلت إليها الدراسة، فإن الباحثة توصي بعدم التوصيات التربوية والدراسات المستقبلية لإجراء مجال الحوار التعاوني بين الأقران في وسائل التواصل التزامنية لتعلم وتعليم اللغة.

الكلمات الدلائل: الحوار التعاوني بين الأقران، وسيلة تواصل تزامنية عبر الحاسب، استيعاب المقروء، الدردشة النصية عبر الإنترنت، أنشطة القراءة
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Dedication

This work is dedicated to my precious people,

My father and mother

My brothers and sisters

Without whom, none of this success would be possible.
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ANOVA: An analysis of variance test.


CMC: Computer-Mediated Communication.

CSR: Collaborative Strategic Reading.

EFL: English as a Foreign Language.

ESL: English as a Second Language.

et al.: and others.

L2: Second Language.

LMS: Learning Management System.

LREs: Language-Related-Episodes.

Moodle: Modular Object-Oriented Dynamic Learning Environment.


SCT: Socio-Cultural Theory.

SLA: Second Language Acquisition.

SPSS: Statistical Package for Social Sciences.
Chapter One
Introduction

1.1 Background of the Study

In today’s English as Foreign Language (EFL) classroom, group and pair collaborative interactions and discussions are common practices among EFL instructors. Collaborative interactions have been approved as a vital component of successful second language acquisition (SLA) (Ellis, 1990; Long, 1996). The theoretical value of collaborative interaction for second language (L2) development stems from the Vygotskian idea that cognitive development cannot be achieved in isolated learning (Vygotsky, 1978). However, cognition is constructed socially by interactions among learners using language as a mental tool, and then it is internalized individually.

Whenever L2 students are engaged in collaborative activities, they increase their opportunity to use the target language, exchange information and collaborate to accomplish common goals. Such collaborative work motivates EFL students to communicate their ideas and co-construct their linguistic knowledge with their peers. Arguably, when EFL students collaborate to solve problems in reading, listening, speaking or writing activities and tasks, their L2 knowledge building becomes obvious during their dialogue (Dobao, 2012). Swain (2000) explained this behavior as the concept of ‘collaborative dialogue’ in which learners are engaged in problem-solving and knowledge construction and where language usage and learning happen at the same time. In a nutshell, this peer-collaborative dialogue provides EFL students with an optimal environment during a joint activity to produce more exceptional L2 learning outcomes.

The medium where collaborative dialogue occurs is not restricted to a specific time or place. In this technological age, the opportunities for involving EFL students in peer-collaborative interaction are increasing significantly. With the use of computer-mediated
communication (CMC) such as emails, blackboards and social networks, the ESL/EFL learner is granted a suitable space for communicating and interacting with others. Hence, CMC promotes L2 learners’ language learning. The CMC environment enables L2 learners to go beyond the walls of their classrooms and provides easy and convenient ways for collaborative work for students to learn and use the language mutually in cyberspace (Yu & Zeng, 2011).

Briefly, CMC is a networked communication system that facilitates either teacher-student or student-student interactions. It has two binary modes according to the time delay between the replies of two interlocutors: asynchronous CMC and synchronous CMC (Yilmaz, 2008). In text-based synchronous computer-mediated communication (SCMC), which is employed in the current study, L2 learners exchange opinions by typing messages into the computer or phone interface, reading messages written by their peers and discussing group activities collaboratively (Al-Mutairy & Shukri, 2017).

Therefore, SCMC offers various features that create a beneficial collaborative learning environment to learn the language by using the language itself (Warschauer, 1997). The notable features of text-based SCMC assemble writing and speaking simultaneously, as L2 learners write down their utterances by texting their peers. These features enable them to review their language and receive immediate feedback from peers. However, despite the efficiency of SCMC in L2 learning, it is an interactional medium that did not receive enough interest in collaborative dialogue, although it is useful to investigate dyadic interaction in this medium (Yilmaz, 2008). The way L2 learners use and learn the language collaboratively to solve problems and build linguistic knowledge is restricted to face-to-face communication while the SCMC context is ignored (Yu & Zeng, 2011; Zeng & Takatsuka, 2009).

Furthermore, peer-collaborative dialogue has not only been devoted to face-to-face communication, but it has also been limited to grammar, vocabulary, speaking and writing skills (Al-Waleedi, 2017; Dobao, 2012; Nguyen, 2013; Teng, 2015). Since collaborative
dialogic interaction helps to elevate student gains in different linguistic aspects, empirical studies are needed to shed light on how L2 students interact with each other in collaborative dialogue to comprehend the text. The student reading comprehension skill is crucial to their L2 development, as it does not only involve transforming written scripts into utterances, but also involves a process of problem-solving in which L2 learners have to make a great effort to understand not only words or strings of words but ideas, information and implicit arguments in the passage (Karabuga & Kaya, 2013).

The more intact reading comprehension L2 students possess, the more they are guaranteed successful language learning. In the Saudi context, reading comprehension is one of the problematic skills for EFL students. This problem is evident in the International English Language Testing System (IELTS) average scores of Saudi students in reading skills which were one of four lowest among 40 countries (IELTS, 2018). Moreover, Al-Nujaidi (2003) asserts that Saudi university students’ reading ability does not meet the acceptable norms. This contributes negatively to their language learning process and academic achievement. Unfortunately, this problem could be attributed to the fact that some reading classes are not given the sufficient attention in some Saudi EFL classrooms and reading activities hugely depend on vocabularies and grammar, while reading comprehension skills are marginalized (Al-Nifayee, 2010).

Accordingly, determining how ELF students obtain a greater reading outcome through their collaborative dialogue to co-construct their L2 knowledge and comprehend a text deserves more attention in SLA. In addition, implementing this collaborative dialogic interaction in a more beneficial, accessible medium for EFL students to reinforce their comprehension of texts has not been completely explored.
1.2 Statement of the Problem

In light of the researcher's experience as an EFL student and teacher, she has noticed that many EFL female students suffer from deficiencies in reading courses and encounter many obstacles when it comes to comprehending reading materials. To overcome the EFL students’ deficiencies in their reading comprehension, peer-collaborative dialogue in the form of text-based SCMC is suggested as a remedy. Thus, the present study examines the effectiveness of peer-collaborative dialogue carried out in text-based SCMC on Saudi EFL students' reading comprehension and their attitudes towards its effectiveness in such a medium.

1.3 Purpose of the Study

The current knowledge of peer-collaborative dialogue relies heavily on limited face-to-face communication and certain language aspects. Thus, the present study sought to explore the untouched areas with two principal purposes. The first purpose was to explore any statistical effect of engaging EFL students in collaborative dialogue carried out in SCMC to foster their reading comprehension performance. The second purpose was to obtain a clearer understanding of EFL students’ attitudes toward the effectiveness of dialogic interactions with their peers and the use of technology for collaboration on their reading performance.

1.4 Research Questions

The study aimed to answer the following two questions:

1- Is there a statistically significant difference between the EFL students’ reading comprehension performances due to peer-collaborative dialogue in SCMC?

2- What are Saudi EFL students’ attitudes towards the effectiveness of peer-collaborative dialogue on their reading comprehension in SCMC?

1.5 Significance of the Study

There is an acknowledged consensus among L2 educators about the importance of peer-collaborative interaction for L2 learners to construct their linguistic knowledge and promote
their language development mutually (Donato, 2004; Lantolf, 2012; Swain, 2000; Swain & Lapkin, 1998; Swain & Watanabe, 2012; Swain, Brooks & Tocalli-Beller, 2002). Thus, the study attempts to shed light on the effect of peer-collaborative dialogue on reading comprehension as one of the most problematic areas in language learning. Besides, the study significantly gives more specifications in SLA literature by going beyond investigating the impact of collaborative interaction on a traditional classroom. It explores collaborative dyadic dialogues in SCMC which has served as the primary mode of communication in recent years.

It is hoped that this study will provide a basis for the possible impact of EFL students' SCMC-based dialogues and reveal how it contributes to their mutual understanding of reading materials. It will hopefully provide EFL instructors with a better understanding of integrating SCMC-based collaborative discussions in EFL reading classes. Moreover, EFL students' attitudes may provide EFL instructors insight to assess the appropriateness of integrating such collaborative discussions in synchronous medium in L2 classes.

Furthermore, despite numerous studies discussing the effect of collaboration on language development, none have investigated the impact of collaborative dialogue carried out in SCMC on developing reading comprehension. To the researcher’s best knowledge, only a handful of studies have been carried out in this field outside Saudi Arabia. Therefore, the significance of the current study stems from the fact that it may be the first to add to this specific area within collaborative dialogue and CMC domains.

1.6 Limitations of the Study

The generalizability of this study is limited to the following factors:

1- This study is limited to EFL female students at Shaqra University, and the temporal limitation of this study is the academic year 1440/1441 _ 2019/2020.

2- The study is limited to Moodle as a SCMC medium where collaborative dialogue is carried out.
3- The study is restricted to the quantitative approach. The implementation of qualitative inquiry could have helped to gain deeper results.

4- The study is limited to four main reading comprehension skills: (a) skimming, (b) scanning, (c) guessing the meaning of unknown words and (d) making inferences. Since these are the main skills with which EFL students at Shaqra University have been trained.

1.7 Definition of Terms

The key terms used throughout this study are:

**Collaborative Dialogue** is defined by Swain (2000) as a ‘dialogue in which speakers are engaged in problem-solving and knowledge building’ (p.102). Through the speakers’ mutual talks, they improve their knowledge and come to a deeper understanding and comprehension of certain phenomena. The speakers’ dialogues can be questioned or added to. This process of the shared construction of knowledge is the source of language learning (Swain & Watanabe, 2012).

**Reading Comprehension** is a complex process that needs a careful interpretation of the text meanings. The participants build their knowledge mutually, read the text to comprehend with other peers, through their collaborative dialogues in SCMC.

**Text-Based Synchronous Computer-Mediated Communication (SCMC)** refers to text-based online chat through computers and combines the textual nature of written utterances and real-time interaction between individuals.

**Traditional and Individual Performance of Reading Activities** refers to the context where every participant in the control group accomplishes reading comprehension activities following the traditional teaching method on an individual basis in a conventional medium (i.e., a traditional classroom).
Attitudes are perceptual impressions or satisfactions the participants have about the peer-collaborative dialogue they had in SCMC on their reading comprehension.

1.8 Organization of the Study

The study is organized into five chapters. Chapter One offered a brief introduction to the study, including the background, statement of the problem and research questions of the study. Chapter Two critically reviews the theoretical framework of the key construct of the present study in three main dimensions: (a) collaboration in relation to reading comprehension, (b) reading comprehension in CMC and (c) peer-collaborative dialogue in SCMC. Chapter Three describes the methodology for the present study, including the participants and the instrument used. Chapter Four reports the results of the study after data collection and analysis with a comprehensive discussion of the obtained findings. Chapter Five provides a summary of the entire study, the recommendations and the conclusions.
Chapter Two

Literature Review

This chapter aims to provide the theoretical framework that forms the basis of the current study and presents a comprehensive review of the related empirical studies. The study investigates the peer-collaborative dialogue in SCMC with an emphasis on its impact on reading comprehension. The theoretical framework of the Sociocultural Theory (SCT), peer interaction and collaborative dialogue, reading comprehension and SCMC are presented. The chapter then reviews empirical studies that investigate the key constructs of the current study.

2.1 Theoretical Framework

2.1.1 Socio-cultural Theory (SCT)

Collaborative pair and group learning have been significantly used in second language (L2) education due to its valuable weight in theoretical concepts over last few decades (Nguyen, 2013). From the theoretical perspective, collaborative learning falls within the Vygotskian sociocultural theory and is constructed within the social and cultural context through social interactions among individuals (Vygotsky, 1978). Vygotsky (1978) argued that humans could not act or learn independently from social relationships and cultural artifacts that influence them (Barnard & Campbell, 2005) since the core of learning is a social activity (Nassaji & Tian, 2010). The central tenet of the sociocultural theory is that the social and mental activities complete each other and are not separate entities, hence, learning occurs through the internalization of social interaction (Yu & Zeng, 2011).

From the sociocultural perspective, learning is a mediated process that happens in social interactions between learners through their communication. This mediated process of learning occurs when the learners use a mental tool: language (Lantolf, 2000). Language is not only a tool for receiving and sending messages, but it is also a ‘thinking tool’ for individuals to help them solve problems, learn new information and develop plans in real life. Therefore, it shapes
human thinking (Mitchell, Myles & Marsden, 2013). According to Vygotsky (1978), the mediated process of learning through language occurs twice: on the social level and individual level. The first is between the individuals and the latter occurs inside the individual’s mind. Vygotsky underscored the significance of the social level where ‘all the higher functions originate as actual relationships between individuals’ (Vygotsky, 1978, p. 57). In other words, to develop their cognition, individuals internalize the learning processes only after they engage first in collaborative behavior and social interaction with others (Stetsenko & Arievitch, 1997). The sociocultural theory states that learning originated socially with language as a tool to shape their thinking and establish and maintain the communicative context, in which the individuals co-construct each other’s knowledge through their interational dialogues.

Therefore, the sociocultural theory stresses the importance of the human agency's role in the internalization process for individuals and the ability to facilitate the constraints within the communicative context via the interaction and assistance (Lantolf & Thorne, 2006). In a nutshell, SCT demonstrates that the core of language learning does not occur in the L2 learners' minds, but with involvement in the collaborative interaction.

### 2.1.2 Peer Interaction and Collaborative Dialogue

In language learning contexts, it is widely acknowledged that interaction with other language speakers plays a critical role in SLA (Long, 1996). Interaction has been addressed by two main approaches: the interactionist perspective and the sociocultural theory. Nevertheless, these perspectives vary in many aspects. The interactionist perspective fits with many SLA theoretical ideas such as Krashen’s (1982) comprehensible input, Swain’s (1985) comprehensible output and Long's (1996) interaction hypothesis. Through peer interaction, L2 learners negotiate meaning to ensure they have a common understanding of it, and this is precisely where the acquisition, resulted from comprehensible input, is promoted when the interactional modifications happen in cases of broken communication (Ellis, 1997). It is certain
that the interactionist approach embraces Krashen’s (1982) notion of comprehensible input as a central component of SLA (Gass, 1997).

However, comprehensible input is still insufficient for the acquisition, and the production of understandable output is a must for language development (Swain, 1985). Swain (1995, 1997) believes that the reason behind this insufficiency is that, when learners are pushed to produce a second language, they process it syntactically because, as they focus on L2 forms, they ‘cannot fake it’ since they need to express the intended meaning clearly. In contrast, when they are trying to comprehend an input, they would not pay attention to language forms and then semantic processing becomes enough. Comprehensible output is hypothesized by Swain (1985), who opines that it is not enough for L2 learners to understand the language semantically, they need to put their language into use and make it comprehensible. In the interactionist perspectives, the negotiation of meaning pushes learners to make their output comprehensible, by noticing the gaps, this would result in sufficient intake of the input and L2 learners’ interlanguage development (Schmidt, 2001). That is to say, the interactionist approach postulates that language acquisition is a linear cognitive process consisting of input-intake-output resulting from negotiating the meaning in L2 learners’ interactions (Yu & Zeng, 2011).

Although the interactionist approach provides a useful description of the form-meaning focus relationship enabled by interaction, yet it reflects the construction of knowledge as a solely individual cognitive process that starts at the intrapersonal level and is later transferred to another individual through the interaction (Swain, 2000). The sociocultural theory views the learning process from a different angle. It regards collaborative efforts as essential for the co-construction of knowledge and emphasizes that learning is a dynamic, collaborative process situated in a social context (Zeng & Takatsuka, 2009). When Swain (1995) first introduced the ‘comprehensible output’ concept, she mentioned some functions of the output: the hypothesis testing and metalinguistic functions. In the first, L2 learners starts to make hypothesis about
the target language through their outputs and test their outputs if they are accepted or not (Swain 2005). While the metalinguistic function, known as a reflective role, is when L2 learners do not hypothesize their output but move forward and reflect their metalinguistic knowledge on their output with other learners consciously (Swain, 1995, 1997). By using their language, they discuss the meaning of specific linguistic items, focus on the appropriateness of some L2 forms or provide each other with help in their collaborative interaction (Yilmaz, 2008). This fits very well with the tenet of sociocultural theory which speculates on that learning is mediated process by using language as a ‘thinking tool’.

Sociocultural perspective redefines the interaction concept and stresses the importance of collaboration in SLA. Collaboration has a great ability to move beyond the exclusive input-output cognitive models as it underscores the need for learners' mutual social relationships and the reciprocity of learning experiences in their activity (Donato, 2004). Within this sociocultural framework, where the current study fits, the center of language learning is not the individual's mind, but it is a social behavior constructed dialogically (Lantolf, 2012). Using language as a social and cognitive tool for interactive language learning is demonstrated in Swain's concept of collaborative dialogue. The concept provides a clear vision of peer collaboration and its effects on the language learning process (Yu & Zeng, 2011; Zeng & Takatsuka, 2009).

Swain (2000) defines collaborative dialogue as the dialogue through which L2 learners build their linguistic knowledge mutually; it is a social and cognitive activity where language use and learning take place simultaneously. Collaborative dialogue is a problem-solving and language co-construction process in a dialogic interaction where the L2 learners are, at the same time, novices individually and experts jointly by developing a linguistic-knowledge that cannot be achieved on an individual basis (Swain, 2000; Swain et al, 2002). The sociocultural theory follows the tenet that learning has social origins. Hence, language acquisition happens
during gradual internalizations of language knowledge only after the learner becomes independent to use what is originally co-constructed with others (Dobao, 2012; Swain & Lapkin, 1998). According to Swain, collaborative dialogue and SLA are firmly bounded by the learners’ output, which is comprised of their speaking or writing (Teng, 2015), such a written output is employed in current study in a form of text-based dialogues in SCMC.

In the pedagogical context, collaborative dialogue is promoted through collaborative tasks and activities. Knowledge of L2 learners is constructed through solving problems and making decisions about the task collaboratively. The learners’ focus on L2 forms is not because of communication breakdowns nor to render the comprehensible meaning to other learner as in case of interactionalist perspective, but to find a better way to develop the meaning mutually (Swain, 2005). The learners' engagement in a collaborative dialogic, pedagogical task is a result of their encouragement and excitement to pursue the shared goal, with a sense of responsibility, they attempt to perform the joint task successfully (Zeng & Takatsuka, 2009).

The collaborative dialogue in dyadic interaction has been investigated through language-related-episodes (Dobao, 2012). Swain and Lapkin (1998) define language-related-episodes (LREs) as ‘any part of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others’ (p. 326). Language-related-episodes include many discourse moves by the learners during their dialogues. Leeser (2004) clarifies the nature and the kinds of interactions that are coded in LREs as the learners could ask for (a) meaning; (b) the correct spelling/pronunciation of a word; (c) the proper grammatical form; or (d) to correct their own and the other's usage of a word, form and structure implicitly or explicitly. Among these kinds of interaction, the vocabulary-focused part constitutes a significant chunk of LREs, and this where the current study fits, as the reading comprehension builds upon the stored vocabulary of L2 learners (Susanto, 2017). Language-
related-episodes represent a useful unit to understand and trace the process of L2 learning, thus, they are a perfect representation of the L2 learning process (Swain & Watanabe, 2012).

2.1.3 Reading Comprehension

Reading is an essential academic skill of language learning that helps L2 learners to develop their professional, social and personal progress. It is more than making a meaning out of written symbols on a page. It is a complex, dynamic process that needs intensive analysis and interpretation of meaning in the text (Scanlon, Anderson & Sweeney 2010). Reading is the primary source of comprehensible input, and it involves an interaction between the reader, the author and the written text (Berardo, 2006). According to Khonamri and Karimabadi (2015), Reading comprehension goes through three basic connected levels. The reader starts with reading the passage to grasp the author's message. Then the reader moves to reading between the lines to grasp the implied message. Finally, the reader progresses to reading beyond the lines.

The ability to read and comprehend text is crucial for L2 learners. Krashen (1993) suggests that reading is essential for other language skills to build larger vocabularies and improve grammatical competence, writing ability and spelling. Hence, two approaches are used when employing reading in the EFL setting: intensive reading and extensive reading. Intensive reading is carried out under teacher guidance and focuses on comprehending new vocabulary, grammatical structure and cultural expressions (Richards & Schmidt, 2002). This approach resembles, to a great extent, the zoom lens (Brown, 1994). Extensive reading, on other hands, aims to grasp key ideas of the reading texts and build good reading habits (Richards & Schmidt, 2002). Brown (1994) links extensive reading with two functions: (a) skimming for the main idea and (b) scanning for details. The pedagogical value of extensive reading is that exposing the L2 learners to a vast quantity of L2 materials without the teacher's guidance will produce the positive effect of L2 competence (Hafiz & Tudor, 1989).
Reading comprehension has been perceived as being critical to academic success. Once students realize the vital role of reading, they will perform better academically (Bell, 2011). In higher education, reading skill is an imperative need for students. Many students can decode information from the text; however, they do not comprehend what they have decoded. This lack of comprehension affects their academic achievement (Bharuthram, 2012). Several possibilities are given to justify the students’ insufficient reading comprehension. For Grabe (2009), comprehension problems might be related to cognitive factors such as the failure to understand and recognize the vocabularies in the text or factors like a lack of opportunities for L2 learners to engage in extensive or intensive reading. Other factors are the short duration of the reading activities, a lack of excitement and interest in what they read (Guthrie, 2004).

In the Saudi context, some EFL university students lack the language skills that are vital for their successful academic performance (Khan, 2011). Reading is likely to spell difficulties for many of these students. Al-Nujaidi (2003) emphasized that first year Saudi college students are facing problems with reading comprehension skills, as their level is below acceptable standards. Unlike in the western culture, reading is an uncommon practice in Saudi Arabia (Al-Nujaidi, 2003). What makes reading a challenge in the Saudi context is that it is an optional skill in Saudi society (Zaharna, 1995). Al-Harbi (2010) underscores that many factors cause reading to be problematic for EFL students. Among them are losing interest in what they are reading and having few reading strategies to or skills to enhance their reading comprehension. Al-Nifayee (2010) stresses that many reading comprehension skills are neglected in some Saudi EFL classrooms, with much attention is advocated greatly to vocabularies and grammar. Further factors are non-engagement with the environment of study in school and university and a lack of support from parents, teachers and society, which causes deep demotivation among Saudi EFL university students (Mohammed & Rashid, 2019).
One of the approaches the researcher believes would be feasible and effective to encounter these reading comprehension difficulties among Saudi EFL university students is the collaborative peer-led approach in Swain’s collaborative dialogue. Peer collaboration provides university students with opportunities to engage in the construction of the knowledge by comprehending the meaning from the text, and it provides collective, mutual assistance that contributes to their reading comprehension and language development (Fan, 2012). Unfortunately, collaborative learning is not applied by the universities’ instructors due to their treatment of students as passive receivers of information (Brufee, 1993). However, collaborative learning in higher education can develop a positive interdependence and responsibility, change the students’ priority to the learning process and the gained knowledge rather than the grades (Scager, Boonstra, Peeters, Vulperhorst, & Wiegant, 2016) and foster higher academic achievement (Tsay & Brady, 2010).

2.1.4 Synchronous Computer-Mediated Communication (SCMC)

With the incremental growth of computer technology and social-networks, L2 learners are exposed to vast chances of acquiring a target language, such opportunities are not available in traditional classrooms (Mahdi, 2014). One of these trendy technologies is computer-mediated communication (CMC) that is defined as ‘a situation in which a computer-based discussion may take place but without necessarily involving learning […] opportunities for learning are inherently present’ (Beatty, 2003, p. 69). The communication in CMC has binary modes: asynchronous (ACMC) and synchronous (SCMC) modes. The interlocutors in synchronous CMC are online at the same time, such as text-chatting, while asynchronous CMC, such as bulletin boards, occurs with different timing (Mahdi & El-Naim, 2012).

Synchronous computer-mediated communication has many benefits that are considered superior to traditional face-to-face interaction (Jung, 2016). It enables L2 learners to have an authentic conversation with others (mainly native speakers) in L2 by giving them more time to
practice their English (Xiao & Yang, 2005). In addition, SCMC encourages collaborative behavior among L2 learners, increases their motivation to produce language, reduces their anxiety over their language output, and gives them the chance to monitor their language production by exchanging bits of help between them (Mahdi & El-Naim, 2012). Hence, SCMC is a proper interactional context to investigate Swain’s collaborative dialogue. Mozafarian Pour and Tahriri (2016) state that the absence of turn-taking and non-verbal signs in the CMC context promote greater participation, free expression of minds and increased peer-collaborative interaction among L2 learners.

More particularly, text-based SCMC, employed in the current study, has been confirmed to be an optimal area for L2 learners. Smith (2003) argues that L2 learners benefit from their interaction through text-based SCMC because of the written nature of their communication that gives them the chance to reflect upon the language form and keeps L2 learners in the conversational flow of their interaction. Hence, the written mode of SCMC impacts L2 outcomes positively by fostering an accurate production of their utterances (Pasfield-Neofitou, 2012). The L2 learners seem to be acting in slow motion because SCMC gives them more time to look at the text, process their linguistic knowledge and produce language at their own pace before sending their messages (Smith, 2009; Yilmaz, 2008). Also, they can go back to earlier conversations and check the feedback given to them (Gurzynski-Weiss & Baralt, 2014). Overall, text-based SCMC is superior over other modalities of communications in making notable differences in SLA (Lin, Huang & Liou, 2013).

The reading skill has received much attention in computer-assisted language learning (CALL), which is attributed to the fact that CMC has the privilege of textual persistence on a computer screen for a long time (Blake, 2016). Kamil and Chou (2009) speculate on the potential efficacy of the text-based online chat, along with other trends such as wikis, for imposing promising implications on reading instruction and enhancing comprehension. They
suppose that this online chat will support social, collaborative interactions between L2 learners about reading comprehension, so they can discuss the texts, ask their peers questions, provide and receive help from their peers and establish connections with them inside and outside of the classroom. In addition, L2 learners who are too shy to speak in front of a class find relief as the text-based online chat offers an alternative way to participate in reading class discussions. In general, Murphy (2010) indicates that CMC provides a suitable context to promote the comprehension of online reading texts and increases the interactions between peers who are located in remote places.

2.2 Empirical Studies

The present study aims to investigate the effect of dyadic collaborative dialogue on the EFL students' reading comprehension in text-based SCMC. Thus, this section reviews some previous empirical studies based on its relevance to the current study. The section takes three main directions: (a) studies addressing collaboration in relation to reading comprehension, (b) studies addressing CMC with reading comprehension and (c) studies addressing peer-collaborative dialogue in SCMC.

2.2.1 Studies Addressing Collaboration in Relation to Reading Comprehension

Several studies have been conducted in the field of language acquisition in general and reading comprehension in particular. They have explored collaborative behaviors and approaches in an environment where EFL students discuss reading passages and revise their understanding mutually to enhance their comprehension performance.

Fan (2012) employed the collaborative dialogue concept to investigate how EFL students collaboratively constructed meaning from reading texts so as to boost their reading comprehension and language development. The participants were 54 EFL Taiwanese first-year non-English major university students with low-intermediate to intermediate English levels. The students worked in small peer-collaborative groups of 5 or 6 members. Each was assigned
a different role (i.e. leader, clunk expert and gist expert). The researcher used an audio-recorder to collect the groups' discussion and an open-coding technique to analyze the transcript of the participants' dialogues. It was found the students engaged actively in the construction of meaning with their peers, and this vital collaborative feature is shown in five patterns: (a) co-construction to infer the meaning of the texts, (b) elaboration and developing ideas upon previous utterances, (c) asking for help, (d) corrective feedback to other peers and (e) providing motivating prompts. While Fan's study is in a different context from the current study, it agrees with the present one on the educational level and English proficiency level of the participants. However, Fan analyzed the data qualitatively while the current study analyzes the data quantitatively.

According to Swain et al. (2002) Peer-collaborative dialogue is evident in collaborative strategic reading (CSR), an approach rendered by Klingner and Vaughn (1998). Collaborative strategic reading is a set of strategies designed to enhance the students' reading comprehension, critical thinking, collaborative learning and social skills (Al-Qarni, 2015). In the Saudi context, Al-Roomy (2013) used CSR to enhance the reading comprehension skills of students who had problems learning English and had failed their first-year English examinations. The study involved 30 medical college students at King Saud University. The researcher applied a mixed-method approach with multiple instruments to collect data: semi-structured interviews, observations, audio and video recordings of lessons, a pretest and post-test and a questionnaire to discover the students’ perceptions of CRS. The findings indicated CSR had boosted students' reading comprehension considerably. They benefited from CSR and gained collaborative skills and critical thinking skills. Also, they showed a positive attitude toward CSR and the group work and its efficacy in the classroom. Al-Roomy's study and the current study are intersected with the aim of examining the effect of collaborative behavior on the students' reading comprehension and their attitudes toward this behavior with pre and post-tests and a attitudinal
scale as instruments to collect data and university students as participants. However, Al-Roomy’s study is guided by a subsequent series of strategies in the classroom, while the current study focuses on the learners’ collaborative dialogue they engage in to construct the knowledge for text comprehension outside the classroom gradually.

Other researchers investigated the possible effects of peer collaboration on reading comprehension and on relevance variable to reading skill by using different approaches. Nejad and Keshavarzi (2015) examined the effect of cooperative learning on reading comprehension texts and on reading anxiety using the 'Ask together – Learn together' model. They investigated students' attitudes towards this intervention. The participants were 70 female students of a pre-university school majoring in experimental sciences and distributed into an experimental and control group in Iran. A pre-test, post-test and a questionnaire were used as instruments to collect the data. The main findings of the study showed that cooperative learning received by the experimental group had a more significant effect on their reading comprehension performance compared to the traditional teaching methods impacts that the control group received. The control group was more anxious during their reading than the other group, and the experimental group showed a favorable attitude towards collaborative learning.

Similarly, Al-Jadoa (2016) investigated the effect of cooperative learning strategies on reading comprehension skills in the Arabic language and examined how peer collaboration would impact students from the adolescent age group. The participants were 50 female students ranging in age from 13-15 years old who were students at a public middle school in Hail, Saudi Arabia. They divided into two groups with one received instruction using the cooperative learning strategy while the other group was taught by the traditional method. The researcher used a reading comprehension achievement test and conducted observations and recorded field notes on students' behavior during reading lessons. It was found that the cooperative learning strategy is helpful to foster students' reading comprehension and social skills so that the
students can develop their self-esteem and engagement in discussions, which would enhance the self-confidence that is needed for this age group. Through Nejad and Keshavarzi (2015) and Al-Jadoa (2016), they have examined collaboration effectiveness on reading comprehension with other psychological factors to give their studies more specifications needed in SLA while the current study is parallel by using text-based SCMC as an environment for EFL students to construct the knowledge about reading passages dialogically outside classrooms.

Recently, Al-Qahtani (2016) investigated the effect of the Creative Circles approach on Saudi EFL students' reading comprehension and the attitudes of students and teachers on this collaborative pedagogical model. The model comprised of engagement, exploration, explanation, elaboration and evaluation as successive stages. The study was carried out in one of Jeddah’s intermediate schools, Saudi Arabia. The experiment consisted of 90 male students divided into one experimental group and two control groups. The researcher collected data by using a proficiency test, a reading comprehension test, semi-structured interviews and reflective journals. It was found that Creative Circles helped the students read collaboratively with comprehension as they brainstormed, interacted, decoded texts, evaluated texts and made decisions together. Both the teacher and students noticed how Creative Circles, with clarified organization and gradual progression of this approach, helped students immensely while reading. They highly appreciated the explicit teaching of reading skills which develops more positive attitudes towards their reading. Besides, Creative Circles gave equal attention to both low-level (such as word recognition) and high-level (such as inferring an implicit information or monitoring other peer’s comprehension) reading processes. In terms of differences between the study by Al-Qahtani (2016) and this current study, their study employed a mixed-method approach, while the current study relies on collecting data quantitatively. Besides, Al-Qahtani
(2016) reported the teacher's attitudes towards this collaborative model while the current study is limited to the attitudes of the students only.

A study by Elsayed and Fariza (2017) provided evidence about how collaborative reading had the potential to change the negative perception of EFL students toward EFL reading comprehension in conventional teaching. The study attempted to obtain Saudi EFL university students' perceptions of the effectiveness of 'learning together' as a collaborative strategy on their reading performance. The quantitative study investigated 40 EFL second-year students from Al-Qassim University assigned as an experimental group. The participants completed a questionnaire before and after receiving a 'learning together' strategy instruction. The result showed that the learning together strategy enhanced the students' enthusiasm to read texts, their interaction with their peers and the provision of mutual assistance. Accordingly, over 86% of the experimental group students affirmed that the learning together strategy fostered their reading comprehension and increased their self-confidence. Elsayed and Fariza (2017) and the current study agree on the attitude investigation and the sample, although they differ in terms of gender. However, Elsayed and Fariza (2017) limited their study investigation to a pre- and post-questionnaire; while the present study utilizes a post-attitudinal scale besides pre and post reading comprehension tests.

2.2.2 Studies Addressing CMC in Relation to Reading Comprehension

With the immersive development of information technology, there was a shift from the traditional learning setting towards more advanced educational ones that enable the EFL students to be engaged in the language learning process at any time. Computer-mediated communication (CMC) is a safe environment with learning management systems (LMS) that enable EFL students to communicate using computers. This use of computers helps them to talk more, solve problems, build knowledge, produce L2 output, and hence, enhance their language acquisition (Al-Mutairy & Shukri, 2017). For this reason, several studies have
approved the effectiveness of CMC on language learning in general and reading comprehension in particular.

Al-Fageeh (2014) gave an account of the wikis’ impact as an online tool in ACMC on developing the reading and writing skills of EFL college students. This experimental study used a designed content of wiki modules. The participants were 63 EFL students from King Khaled University, Saudi Arabia, who were distributed into two groups. The experimental group was engaged in blended writing course and assigned into dyads or triads to complete tasks, which consisted of reading textbook passages or online materials, checking the students’ comprehension through discussions, preparing for the writing phase and finally the process of writing and posting on Blackboard wikis. By using the pretests and post-tests as instruments, the results found that wikis promoted peer reading and writing work among EFL students with more enthusiasm, motivation and satisfaction. The researcher attributed this positive finding to the critical role collaboration plays: it encourages the students to read with comprehension, learn from others and write more carefully. Although Al-Fageeh’s study integrated both reading and writing skills, it contributed greatly to the current study by providing a rationale factor that positively influenced the collaborative reading in CMC environments.

Bataineh and Mayyas (2017) examined the effect of Moodle as an in-class instruction and further supplementation method on EFL students’ reading comprehension and grammar achievement. With a quasi-experimental study design, the researchers used reading comprehension and grammar pre- and post-tests to measure the desirable effect of a language requirement course on 32 Jordanian EFL students at Jordan University of Science and Technology, Jordan. The experimental group was instructed to interact with their teacher and peers through reading and grammar activities and self-assessment tests posted on Moodle, while the control group used Moodle as in-class instructions only. Due to the supplementation
of Moodle, the results revealed a statistically significant difference in scanning, skimming and overall reading comprehension and grammar scores in favor of the experimental participants.

Similarly, Rad (2018) explored if Moodle-mediated instruction had a significant impact on the reading comprehension of EFL students. The sample of the study consisted of 39 intermediate Iranian EFL English major students at Islamic Azad University in Tehran, Iran. Besides in-class instruction, the students of the experimental group had extra access to Moodle outside the classroom. The students were asked to accomplish self-assessment activities posted on Moodle as outside classroom sessions. The researcher utilized reading comprehension tests as both the pre- and post-test to measure the reading comprehension performance of the students. The findings showed that the experimental group’s reading performance was significantly better than the control group’s performance. It is justified to the fact that self-assessment activities help the students to engage more in the learning process as they took responsibility for their own learning. The teacher’s feedback in Moodle reduced the learning time and increased the learners’ confidence. Hence, it enhanced their reading comprehension as well. To a great extent, the studies of Bataineh and Mayyas (2017) and Rad (2018) were alike in terms of the CMC tool, the sample and the instruments, and thereby contributed to the current study. Although both studies by Bataineh and Mayyas (2017) and Rad (2018) did not involve the synchronous text-chatting available in Moodle, the collaborative interaction between EFL students is inherently present and being embraced in Moodle as a CMC medium.

In a recent study, the impact of a brand-new learning environment called ‘Schoology’ on the students’ reading comprehension was examined by Rama, Riham and Alberth (2018). The purpose of the study was to give a further account of their perception of Schoology and the advantages and the disadvantages of using this environment for teaching reading comprehension. The researchers applied a quasi-experimental research design on 40 college students from Lakidende University in Unaaha, Indonesia. The quantitative data of the study
were weighted more than the qualitative data. The quantitative data were measured through pre- and post-reading comprehension tests, while self-dairies were used to obtain the qualitative data. The study found that Schoology considerably enhanced students’ reading comprehension, with a positive correlation between their reading comprehension and their engagement in Schoology. Besides, the students revealed the usefulness of Schoology in offering a better understanding of the reading materials. The advantages of this platform were increasing the student’s responsibility in their learning process, encouraging collaborative behavior either with their teacher or other peers and ease of use and accessibility. On the other hand, the difficulty in accessing the internet, the time-consuming and the monotonous nature of the platform were the main disadvantages. The study by Rama et al. (2018) obtained the students’ perceptions toward Schoology through self-dairies, while the current study adopts a attitudinal scale to gain their attitudes toward text-based collaborative dialogues on reading comprehension carried out in Moodle.

2.2.3 Studies Addressing Peer-Collaborative Dialogue in SCMC

From the previously reviewed studies, it is noticeable that most of the studies were conducted in classrooms with a particular pedagogical purpose: either to investigate the strategic collaborations or the various CMC means on reading comprehension. However, few studies have been devoted to examine dyadic collaborative dialogue in text-based SCMC outside the classroom to foster SLA.

Teng (2015) studied the collaborative dialogue effects on ESL students’ comprehension and retention of the meaning of the target idioms. The participants were 16 ESL non-English major students enrolled at Iowa State University, The United States divided into pairs to form 8 dyad peers. Mainly, the study explored the patterns of dyadic interaction, the way learners provide the scaffolded assistance to comprehend the meaning of L2 idioms and their attitude toward SCMC-based collaborative interaction with peers. To collect qualitative and
quantitative data, the researcher used a pre-task questionnaire, a pre-test, reflective journals, immediate and delayed post-tests, stimulated recall protocols, a post-task survey and interviews. The study found that the participants were engaged in the four patterns of paired interaction (collaborative, dominant/dominant, dominant/passive and expert/novice), as well as they provided each other with scaffolded assistance. Finally, a positive attitude was dominant among the participants towards this collaboration. In contrary to the quantitative approach of the current study, Teng's study was a mixed-method approach. Furthermore, Teng's focus was on the ESL students’ vocabulary acquisition, while the current study is conducted in the Saudi EFL context in relation to their reading comprehension.

Tare, Golonka and Bonilla (2017) explored the characteristics of dyadic peer interactions during text-based SCMC that could lead to more significant language gain by analyzing the transcripts of dialogues. The study involved 25 students enrolled in an intermediate-level Russian class at an intensive language training institution and were given activities designed for pairs. The topics of activities were taught during the study and included information-, reasoning- or opinion-gaps. The researchers analyzed data qualitatively by coding the chat transcripts using ATLAS.ti. The results showed that there were three types of characteristics of the peer-collaborative interaction in text-chat that fostered their language development: (a) offering linguistic assistance such as correcting themselves or other peers and negotiating the meaning, (b) using their peers as a source to explain information or unknown words and (c) providing mutual support by replying positively to each other. The qualitative approach of the study by Tare et al. (2017) contributes to the current study of the quantitative approach by giving understandable reasons that make the performance of students who are engaged in collaborative dialogue during text-based SCMC surpass individual performances.
2.3 Critical Review of Related Studies

The review of literature thus far shows that, although collaboration is seen from different angles, it has a desirable outcome on students' reading comprehension achievement and their attitudes toward integrating collaboration in the process of comprehending the texts. Likewise, supplementing various means of CMC in reading comprehension classrooms results in better reading comprehension and attitudes as well. Nonetheless, the key construct of the current study is the impact of collaborative dialogue, which acts as the EFL students' output, on a skill that considered as comprehensible input source. Reading comprehension skill has been dealt through the different collaborative approaches and behaviors, in which they have organized models that follow a gradual progression of stages and procedures. Reading comprehension has never been approached with a more dynamic collaborative process that could happen in any possible pedagogical context for EFL students such as the collaborative dialogues. Furthermore, the reviewed studies which investigated collaborative dialogue in CMC came with findings that touch on other L2 areas (vocabulary and general language gains). Hence, it is not easy to generalize these findings covering reading comprehension.

To the researcher's best knowledge, no study has been conducted to investigate the collaborative dialogue effect on reading comprehension in text-based SCMC whether inside or outside the EFL Saudi context. From the researcher's perspective, this limitation raises two main facts. First, there is a need to contribute to the body of literature in this domain since reading is a language skill that still needs further investigation to see if collaborative dialogue facilitates L2 learners’ comprehension of reading materials (Swain & Watanabe, 2012). Second, text-based SCMC has become the most common channel of communication among students recently. This makes it a suitable medium for their dialogues to occur at any time rather than in a time-restricted traditional classroom. This, in turn, would foster the Saudi EFL university students' reading performance.
Chapter Three

Research Methodology

This chapter provides a detailed description of the research methodology used in the study. It describes the research design, the research participants and the research variables. The research instruments, validation and reliability of the instruments and the research materials are also given in detail. Moreover, the chapter describes the research procedure of the present study.

3.1 Design of the Study

The researcher adopted a quasi-experimental design which represents quantitative research at its most scientific level.

3.2 Sample of the Study

The sample of the study comprised 36 EFL students enrolled in English Language Department, the College of Art and Science at Shaqra University. The sample was distributed randomly into two groups: (a) an experimental group consisting of 18 students forming nine pairs, and (b) a control group of 18 students working individually. The participants of this study were at their third level (second academic year) and required to take two-credit reading comprehension courses (ENG 113 and ENG 115), and a writing course (ENG114) offered to the students at the bachelor’s program. Since language proficiency is an affecting variable on reading comprehension, the researcher administrated Oxford Quick Placement Test (QPT) before the experiment to both groups to ensure equality in their English proficiency level. The test scores showed that the participants’ proficiency level was within the A2 level in the Common European Framework of Reference for Languages (CEFR) system. The participants of the experimental group were engaged in dyadic collaborative talks on Moodle to accomplish reading comprehension activities, whereas the control group followed the traditional teaching method to perform these activities traditionally and individually. Moreover, both groups
received the same guidance and attention from the researcher and the same reading comprehension activities that she had developed. The two groups were also taught by the same instructor. Prior to the experiment, informed consent was obtained from the participants (Appendix A).

3.3 Variables of the Study

3.3.1 Independent Variables

There are two levels of the independent variables. The first level is the proposed treatment, in which reading activities were accomplished through the peer-collaborative dialogue carried out in text-based SCMC. The second level is the standard treatment, in which reading activities were accomplished by following the traditional teaching methods, i.e., individually in a conventional medium.

3.3.2 Dependent Variable

The dependent variable is the reading comprehension achievement.

3.4 Instruments of the Study

To achieve the purpose of the study, the researcher utilized two instruments to collect the data. First, a pre-post reading comprehension test was constructed to investigate the impact of peer-collaborative dialogue that is carried out in SCMC on the participants’ reading comprehension achievement. The pre-posttest was based on four reading comprehension skills: (a) scanning, (b) skimming, (c) guessing the meaning of unknown words from the context and (d) making inferences. Second, a scale of attitudes was developed to obtain the attitudes of participants in the experimental group toward the effect of their collaborative dialogue with peers in text-based SCMC on their reading comprehension.
3.4.1 The Reading Comprehension Test

The pre-test of reading comprehension aimed to recognize both groups’ reading comprehension level before the treatment. The post-test sought to screen out any progress or differences in both groups’ reading comprehension achievement by comparing its scores with those of the pre-test (Appendix B). The pre-post reading comprehension test was adopted from the standardized test (TOEFL). The low reading level of the participants was predictable as observed from the researcher’s experience and established from Al-Nujaidi’s study (2003). Hence, the researcher tended to scaffold the test to meet the sample’s pre-intermediate level. The readability level of the selected passages ranged from 50-60 on the Flesch reading ease scale. The Saudi secondary stage EFL textbooks were checked, and the researcher found that the readability of the passages in the third-year textbook matched the passages’ readability in the current study’s test closely. The test involved three passages, the first passage was from Rogers’s (2011) and was 242 words in length. The second and third passages were from Phillips’s (2001) and were 163-171 words in length.

The test comprised 21 multiple-choice comprehension items to save the participants’ time and check their comprehension only. Moreover, it was constructed according to the table of the reading comprehension test specifications (Table 3.1). The test items were classified according to specific reading skills: (a) skimming, (b) scanning, (c) guessing the meaning from the context and (d) making inferences. These literal and inferential reading comprehension skills were chosen because EFL university students are frequently trained on them. The researcher used the definition of each skill as a basis to classify the items of the test. Skimming, which items occupy 19.05% of the test, is reading to get the main idea or purpose of the text. Scanning means glancing through the passage to find the specific information mentioned and makes up 28.57% of the test’s items. As for guessing the meaning of unfamiliar words, 23.81% of the test items investigated this skill, and participants had to use the context in which those
words occur to comprehend their meanings. Making inferences, which is when readers make a logical inferring about the given information, occupied a similar proportion of skimming. Each test item examined a certain reading comprehension skill and was distributed in each passage as shown in Table 3.2.

Table 3.1

Table of the Reading Comprehension Test Specifications

<table>
<thead>
<tr>
<th>Reading comprehension skills</th>
<th>Total of items</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skimming</td>
<td>4</td>
<td>19.05%</td>
</tr>
<tr>
<td>Scanning</td>
<td>6</td>
<td>28.57%</td>
</tr>
<tr>
<td>Guessing meaning</td>
<td>5</td>
<td>23.81%</td>
</tr>
<tr>
<td>Making inferences</td>
<td>6</td>
<td>28.57%</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>100%</td>
</tr>
</tbody>
</table>

Furthermore, the scoring did not need another rater since all test items were objective. The scores ranged between 0-21 marks with one mark given for each correct answer and zero given for each wrong answer.

Table 3.2

The Distribution of Items Specified for Reading Skills in the Test

<table>
<thead>
<tr>
<th>Reading Comprehension Skills</th>
<th>Skimming</th>
<th>Scanning</th>
<th>Guessing Meaning</th>
<th>Making Inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage 1</td>
<td>7</td>
<td>1, 2</td>
<td>3, 5</td>
<td>4, 6</td>
</tr>
<tr>
<td>Passage 2</td>
<td>1, 5</td>
<td>2, 3</td>
<td>4</td>
<td>6, 7</td>
</tr>
<tr>
<td>Passage 3</td>
<td>1</td>
<td>4, 7</td>
<td>3, 6</td>
<td>2, 5</td>
</tr>
</tbody>
</table>
3.4.2 The Scale of SCMC-based Dialogical Collaborative Reading Attitudes

3.4.2.1 Aims of the Scale of SCMC-based Dialogical Collaborative Reading Attitudes

To answer the second question, the researcher employed a scale of attitudes to collect data and elicit the participants’ attitudes toward their collaboration with peers carried out text-based SCMC (Moodle) on their reading comprehension (Appendix C). The scale was given to the experimental group’s participants at the end of the experiment as a post-project evaluation at the same time and place.

3.4.2.2 Items of the Scale of SCMC-based Dialogical Collaborative Reading Attitudes

The researcher developed a scale of attitudes based on Teng’s (2015) survey of the collaboration with peers in a text-based online chat and Al-Nujaidi’s (2003) modified reading strategies survey, which was adopted from Sheorey and Mokhtari’s (2002) Survey of Reading Strategies (SORS). Other items were added and modified to meet the objectives of the present study. The attitudinal scale followed the closed-ended, Likert scale format. According to Peterson (2000), Likert scales are considered a suitable instrument to measure sustained constructs such as attitudes and perceptions. The participants were asked to rate their attitudes using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The attitudinal scale consisted of 22 items listed equally in two dimensions: (a) attitudes toward comprehending reading passages through collaboration and (b) attitudes toward using collaborative text-based SCMC for comprehending reading passages.

3.5 Validity and Reliability of the Instruments

3.5.1 Validity of the Instruments

The researcher employed content validity to ensure that the instruments used in the study were valid to be applied. Content validity is defined as whether an instrument accurately represents the research domain of interest to measure a certain entity (Wynd, Schmidt & Schaefer, 2003). The instruments were introduced to a validation committee of six EFL
university professors in CALL and Teaching Methods at Al-Imam Mohammad Ibn Saud Islamic University (Appendix D). The instruments’ items were reviewed and modified in response to their feedback and recommendations, and only small changes were made.

### 3.5.2 Reliability of the Instruments

To estimate reliability, the researcher piloted the study instruments on 30 EFL students whose English proficiency levels were similar to those of students in the original study sample. However, this sample was excluded from the present study. The Cronbach Alpha coefficient was applied and calculated using the Statistical Package for Social Science program (SPSS). The results of the reliability analysis showed that Cronbach’s Alpha coefficient of the test was 0.74, which indicates acceptable reliability results, while Cronbach’s Alpha coefficient of the attitudinal scale was 0.86, which is a highly acceptable result for scientific research.

### 3.6 Instructional Materials

#### 3.6.1 Reading Materials

The reading materials used in the study were chosen from Rogers (2011). The selection of the reading activities was based on being consistent with the pre-post reading test concerning the following three points. First, the format of the questions, in which the activities followed a similar objective format of the test. Second, it targeted reading comprehension skills that were covered in the test. Third, the readability level of the passages scored 60.4 to 74.5 on the Flesch reading ease scale, which was similar to the test’s passage level (Appendix E).

#### 3.6.2 Computer Software

To carry out the experiment, the researcher created a Moodle account so the participants could have access to online reading activities and discuss them collaboratively to achieve a shared goal. Moodle is a Learning Management System (LMS) used as a platform to host the synchronous chat in the present study. One of the productive features of Moodle is chat rooms.
The Chat feature of Moodle is an easy synchronous communication tool that allows learners and teachers to have a real-time and fruitful discussion via the internet (Cole & Foster, 2007).

Therefore, SCMC-collaborative dialogue among the participants was operationalized through the Chat feature of Moodle. The participants used their mobile phones and personal computers to create Moodle accounts to log into the chat rooms. The researcher set up nine chat rooms to allow the participants to exchange their dialogues about reading activities. The participants were chatting by typing texts at the bottom of the screen in the texting area, with the texts and the sending time appeared immediately on the chatting screen (see Figure 3.1). After chat sessions were completed, chat transcriptions were saved and archived automatically. The researcher collected and retrieved the extracts from the participants’ collaborative dialogue through Chat logs to discuss the results.

![Screenshot of the Moodle chat screen](image)

**Figure 3.1.** Screenshot of the Moodle chat screen

### 3.7 Procedures of the Study

#### 3.7.1 Experimentation Process

The researcher followed numerous steps to carry out the study. The first step was obtaining a complete view of the present study by identifying research problems, questions, participants, methodology and checking the validity and the reliability of the instruments. The next step was obtaining the approval to conduct the study from both Shaqra University and Al-Imam Mohammad Ibn Saud Islamic University and the participants (Appendix F). Then, the
researcher started the study by selecting 36 EFL students and assigning 18 randomly as a control group and 18, forming nine pairs, as an experimental group. After that, the researcher administered the reading comprehension pre-test to the participants in both groups before conducting the experiment.

Next, the researcher provided the experimental group with access to https://moodlecloud.com/, where the researcher created an account for the experiment: https://masterexperiemnt.moodlecloud.com/login/index.php. At the beginning of the experiment, the researcher provided the experimental group with a step-by-step Moodle tutorial and explained how to create personal accounts and use the Moodle online-chat, with some time to practice. Next, both groups performed assigned reading comprehension activities on a weekly basis. The paired participants approached reading comprehension activities posted on Moodle with real-time text-based discussion and communication via the Chat feature while the control group participants were given these activities in class and performed them individually.

Reading activities were scheduled for both groups every Monday for three weeks. The researcher was available every time the participants were performing the activities to provide guidance to both groups and technical support to the experimental group. Also, she was a part of each paired online-chat to monitor the collaborative interaction and she was present to evaluate the Moodle-related online reading activities. Furthermore, chat transcriptions of the participants’ communication were automatically saved, retrieved and reviewed by the researcher for the sake of supporting the study’s results. Then the researcher administered the reading comprehension post-test to both groups and the scale of attitudes to the experimental group only. As a final step, the research data were collected and analyzed statistically by using proper statistical techniques to answer the research questions.
3.7.2 Data Collection

The data collection procedure was based on two phases: the pilot study and the main study (Table 3.3). The pilot study was run during the first week of the first semester of academic year 1440/1441 (2019/2020). The data of the pilot study were collected and statistically analyzed to measure the reliability of the instruments. After assessing the instruments, the study progressed to the next phase. For the main study, the primary source to collect data to answer the first question was the participants' scores on the pre-post reading comprehension test. The principal source of data collection for the second question was the attitudinal scale. The data collection occurred during the first and second quarter of the same semester.

Table 3.3
Data Collection Procedure

<table>
<thead>
<tr>
<th>Time</th>
<th>Procedure</th>
<th>Duration (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-quarter of first semester</td>
<td>Pilot study</td>
<td>1</td>
</tr>
<tr>
<td>First and second-quarter of first semester</td>
<td>Pre-test</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moodle tutorials</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Reading activities</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Post-test and scale of attitudes</td>
<td>1</td>
</tr>
</tbody>
</table>

3.7.3 Statistical Data Analysis

After the data of the pre-post tests and the attitudinal scale responses were collected, they were analyzed using SPSS software. The following statistical data analyses were used to analyze the data:

1- An independent sample t-test was used to address if there is a significant difference in the pre-test scores between the control and experiment group. This helped to validate that the entire sample is drawn from a homogeneous population.
2- A paired sample t-test was used to assess if the peer-collaborative dialogue in SCMC has a statistically significant effect on the experiment group’s reading comprehension achievement.

3- An analysis of variance test (ANOVA) was run on the experimental group’s post-test to check the most affected reading comprehension skill by the text-based peer-collaborative dialogue.

4- Descriptive statistics (means, standard deviations) were used to obtain the first insight about the data and to describe the distribution of the reading comprehension skills scores in the pre-posttests. Moreover, descriptive statistics (frequencies and percent, means and standard deviations) were also used to report the experimental group’s responses to the attitudinal scale. In this way, the answer to the second research question was obtained.

5- A one sample t-test was used to assess if the overall response to the attitude statements by the participants was positive (i.e. the participants positively answered to the two different attitudinal domains of the scale).
Chapter Four

Results and Discussions

This chapter presents the detailed results and the discussions of the findings collected from pre-post reading comprehension tests and the scale of SCMC-based dialogical collaborative reading attitudes. The chapter aims to empirically answer the predefined research questions, which sought a potential statistically significant impact of peer-collaborative dialogue carried out in SCMC on Saudi EFL students’ reading comprehension and an elicitation of their attitudes toward such treatment. The present study utilizes quantitative statistical analysis tests to analyze the data. These involve an independent sample t-test, a paired sample t-test, ANOVA, descriptive statistics and a one-sample t-test. The results are discussed in two main sections to answer the research questions.

4.1 Results Related to the First Research Question

To answer the first research question of the study ‘Is there a statistically significant difference between the EFL students’ reading comprehension performances due to peer-collaborative dialogue in SCMC?’, the researcher conducted four statistical analyses to provide a satisfying answer.

4.1.1 Means and Standard Deviation Analysis

The average percentage scores and standard deviations for the pre and post-test were calculated and ranked for all four reading skills across both groups (the control and experimental group). Subsequently, the overall findings were revealed based on means and standard deviation.
Table 4.1

**Means, Ranks and Standard Deviations of Control and Experimental Groups’ Scores on Reading Comprehension Pre-test and Post-test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Skill</th>
<th>No. of Question</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Means</td>
<td>SD</td>
</tr>
<tr>
<td>Control</td>
<td>Scanning</td>
<td>6</td>
<td>62.96</td>
<td>25.280</td>
</tr>
<tr>
<td></td>
<td>Guessing Meanings</td>
<td>5</td>
<td>42.22</td>
<td>27.344</td>
</tr>
<tr>
<td></td>
<td>Making Inference</td>
<td>6</td>
<td>53.71</td>
<td>24.615</td>
</tr>
<tr>
<td></td>
<td>Skimming</td>
<td>4</td>
<td>59.72</td>
<td>33.363</td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td>21</td>
<td>54.76</td>
<td>18.718</td>
</tr>
<tr>
<td></td>
<td>Scanning</td>
<td>6</td>
<td>62.04</td>
<td>23.423</td>
</tr>
<tr>
<td></td>
<td>Guessing Meanings</td>
<td>5</td>
<td>50.00</td>
<td>25.860</td>
</tr>
<tr>
<td></td>
<td>Making Inference</td>
<td>6</td>
<td>56.49</td>
<td>21.490</td>
</tr>
<tr>
<td></td>
<td>Skimming</td>
<td>4</td>
<td>54.17</td>
<td>24.630</td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td>21</td>
<td>56.08</td>
<td>16.457</td>
</tr>
</tbody>
</table>

*Note.* Values are presented in percentages.

As shown in Table 4.1, the descriptive results of the control group showed that scanning skill has the highest average pre-test score (M=62.96%, SD=25.28%) followed by skimming (M=59.72%, SD=33.363%), making inferences skill (M=53.71%, SD=24.615%) and guessing the meaning of unknown words (M=42.22%, SD=27.344%). For the post-test score of the control group, making inferences moved to second rank (M=61.11%, SD=20.602%) over skimming (M=50.0%, SD=28.440%) while the other skills remained in the same position as in the pre-test scores. That is, scanning ranked first (M=64.81%, SD=25.493%) and guessing meaning from the context ranked fourth (M=43.33%, SD=31.623%). A similar pattern was observed for the experimental group. There was a major change in the reading skills ranking for the pre and post-test scores, while the scanning skill ranked first (M=62.904%, SD=23.423%) and the making inferences skill ranked second (M=56.49%, SD=21.490%) in the pre-test. However, the making inferences skill ranked first (M=71.3%, SD=18.787%) after applying SCMC peer-collaborative dialogue while scanning ranked secondly.
4.1.2 Independent Sample T-test

Before the experiment, the researcher administrated a pre-reading comprehension test to both the control and experimental groups to ensure homogeneity and equality between the groups before the application of SCMC-based peer-collaborative dialogue. An independent sample t-test was used to assess the assumption.

Table 4.2

<table>
<thead>
<tr>
<th>skill</th>
<th>Group</th>
<th>N</th>
<th>Means</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanning</td>
<td>Control</td>
<td>18</td>
<td>3.78</td>
<td>1.517</td>
<td>114</td>
<td>34</td>
<td>.910</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>18</td>
<td>3.72</td>
<td>1.406</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guessing Meaning</td>
<td>Control</td>
<td>18</td>
<td>2.11</td>
<td>1.367</td>
<td>-.876</td>
<td>34</td>
<td>.387</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>18</td>
<td>2.50</td>
<td>1.295</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making Inference</td>
<td>Control</td>
<td>18</td>
<td>3.22</td>
<td>1.478</td>
<td>-.361</td>
<td>34</td>
<td>.721</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>18</td>
<td>3.39</td>
<td>1.290</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skimming</td>
<td>Control</td>
<td>18</td>
<td>2.39</td>
<td>1.335</td>
<td>.568</td>
<td>34</td>
<td>.574</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>18</td>
<td>2.17</td>
<td>.985</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is observed from Table 4.2 that there are no significant differences between the pre-test means of the two groups on all four skills. The mean scores of scanning, guessing the meaning from the context, making inferences and skimming in the pre-test amounted to 3.78, 2.11, 3.22 and 2.39 for the control group and 3.72, 2.50, 3.39 and 2.17 for the experimental group, respectively. Moreover, the p values are more than the level of significance, of which the p values were 0.910, 0.721, 0.574 and 0.387, p>.05.

Table 4.3

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Means</th>
<th>SD</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>18</td>
<td>11.78</td>
<td>3.457</td>
<td>.823</td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>11.50</td>
<td>3.930</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.3 shows that there is no significant difference in the overall pre-test scores with p-value 0.823, p>.05. Conclusively, the homogeneity and equality are approved between the control and experimental before conducting the experiment.

### 4.1.3 Paired Sample T-test

After conducting the study, a paired sample t-test was employed to assess if there is a significant difference in the average of the experimental group’s pre and post-test scores.

Table 4.4

*Paired Sample T-test*

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>SD</th>
<th>Std. Error Mean</th>
<th>Correlation</th>
<th>t</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>Pre-test score</td>
<td>11.78</td>
<td>18</td>
<td>3.457</td>
<td>.815</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-test Score</td>
<td>14.44</td>
<td>18</td>
<td>2.640</td>
<td>.622</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.760</td>
<td>-5.030</td>
<td>17</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 4.4, the results of the paired sample t-test revealed that a significant difference is detected since t(17) = -5.030 and the level of significance is (0.000), which is less than (0.05), p<.05. The average posttest score (M=14.44, SD=2.640) was significantly higher than the average pre-test score (M=11.78, SD=3.457) of the experimental group. Thereby, it can be concluded that peer-collaborative dialogue has a statistically significant effect on Saudi EFL students' reading comprehension performance in SCMC.

### 4.1.4 Analysis of Variance Test (ANOVA)

A one-way analysis of variance (ANOVA) test was used to check the most impacted reading skill observed from the participants' performance by the peer-collaborative dialogue in SCMC. Table 4.5 indicates that a significant difference was found in the impact of peer-collaborative dialogue across the different reading skills (p<.05).
Table 4.5

ANOVA Test for the Most Affected Reading Skill

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Means Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>34.778</td>
<td>3</td>
<td>11.593</td>
<td>10.063</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>78.333</td>
<td>68</td>
<td>1.152</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>113.111</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.6

Post-test Scores of Experimental Group

<table>
<thead>
<tr>
<th>Skill</th>
<th>No. of Question</th>
<th>Means</th>
<th>Std. Deviation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanning</td>
<td>6</td>
<td>4.28</td>
<td>1.179</td>
<td>1</td>
</tr>
<tr>
<td>Guessing Meaning</td>
<td>5</td>
<td>3.22</td>
<td>1.114</td>
<td>3</td>
</tr>
<tr>
<td>Making Inference</td>
<td>6</td>
<td>4.28</td>
<td>1.127</td>
<td>1</td>
</tr>
<tr>
<td>Skimming</td>
<td>4</td>
<td>2.67</td>
<td>.840</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. Scores were calculated using percentage for standard across the skills.

Figure 4.2. An ANOVA test for significant differences across reading skills.

As shown in Table 4.6 and Figure 4.2, the most impacted reading skills are the making inferences skill (M=4.28, SD=1.127) and scanning (M=4.28, SD=1.179), as both have an equal average post-test score. However, the making inferences skill has the least variances (SD=1.127) compared to scanning (SD=1.179), which makes this skill the most impacted area by the peer-collaborative dialogue in SCMC followed by scanning and then guessing the
meaning from the context \( (M=3.22, \ SD=1.114) \). Skimming was the least impacted skill \( (M=2.67, \ SD=.840) \).

4.2 Results Related to the Second Research Question

To answer the second question of the study ‘What are Saudi EFL students’ attitudes towards the effectiveness of peer-collaborative dialogue on their reading comprehension in SCMC?’, a scale of SCMC-based dialogical collaborative reading attitudes was carried out and analyzed by reporting the descriptive statistics of the experimental group’s responses to the statements and then running a one-sample t-test to assess their attitudes toward the overall treatment of the study.

4.2.1 Descriptive Statistics

4.2.1.1 Attitudes Toward Comprehending Reading Passages Through Collaboration with a Peer.

It is evident from Table 4.7 that 88.9% of the participants expressed enjoyment during peer collaboration in comprehending the passages with the highest means in both domains \( (M=4.50) \). However, 5.6% of the participants did not understand the passages better while collaborating dialogically with their peers. Nevertheless, 83.3% positively agreed that discussing the passages with their peers facilitated better comprehension of the passages.

The majority of the participants (88.9%) agreed that discussing the passage with their peers promoted their skimming skills to get the main idea of the passage. Of the remainder, 5.6% disagreed, while 5.6% did not express their opinions on the matter. When it came to distinguishing between the main ideas and the supporting ideas, discussing the passage with peers was found helpful by 66.7% of the participants, while 5.6% strongly disagreed. Furthermore, 88.9% of the participants agreed on the effect of discussing passages with their peers in terms of scanning the passage for specific information.
In respect to guessing the meaning of unfamiliar words, 72.2% of the participants expressed their disagreement with using the dictionary instead of asking peers for unknown words, while a total of 16.7% preferred dictionaries over asking for help from peers. This negative statement was ranked last, with the lowest means in both domains (M=2.28). This result became obvious with the next statement, which indicates that 88.9% of the participants agreed that discussing the passage with their peers helped them guess the meaning of the unknown words from the context, while only 5.6% disagreed with this opinion. When it came to the making inferences skill, 88.8% of the participants agreed that discussing the passage with peers facilitated making logical guesses about the information in the passage. No one disagreed with this statement, which makes this result rank third with the highest means compared to other reading skills (M=4.33).

Moreover, 66.7% of the participants were not concerned that their peers’ interpretations of the passage might be wrong. It was secondly ranked as a lowest means (M=2.39). This result indicates that more than half of the participants trusted their peers’ explanations and their ability to construct knowledge to comprehend the passages jointly. The results showed that 94.4% of the participants revealed they would be motivated and interested if dyadic discussions were involved in reading classes, which makes this statement rank second with the very high means (M=4.44).

Finally, only 5.6% of the participants disagreed with the opinion that, in future reading classes, they can complete classroom activities successfully with their peers rather than by themselves, while 77.7% agreed. In conclusion, a strong and positive attitude was expressed by the participants of the experimental group towards the effectiveness of peer-collaborative dialogue on their reading comprehension. This was also supported by most of the statements having an average score above 3 (undecided).
4.2.1.2 Attitudes Toward Using Collaborative Text-Based SCMC with a Peer to Comprehend Reading Passages

Table 4.8 reveals the participants’ attitudes toward using the text-based online chat with their peers for reading comprehension. It was found that 77.8% of the participants responded positively (agree and strongly agree) and enjoyed text-based collaborative discussions about the reading passages. This result resembles, to a great extent, their enjoyment of collaborating with their peers. For experiencing self-confidence during the dyadic discussion about the reading passages in SCMC, 88.9% of the participants agreed on this with a high mean (M=4.28).

For the general attitude that includes SCMC engagement, usefulness, freedom of expression and questioning, 5.6% disagreed with the opinion that the reading comprehension activities were engaging in Moodle. However, 77.8% found them interesting in Moodle. Besides, 83.3% of the participants agreed on the usefulness of online peer-collaborative discussions in favor of face-to-face communication. The majority of the participants (77.7%) agreed that text-based chatting helped them express their ideas about the passage freely and 5.6% disagreed. Similarly, 77.8% found asking their peers about the passage was done with no hesitations, while those who disagreed and did not decide on this matter scored 11.1% equally.

Concerning the four reading skills, 61.1% of the participants agreed that paired online chat facilitated skimming the passage, while 16.7% disagreed with it. For scanning, the majority (77.8%) of the participants also agreed that dyadic online chat was helpful to notice specific details in the passages, 5.6% disagreed and 16.7% had no opinion. Discussing different words during the online chat with peers was agreed by 83.3% of the participants, which made it easier for them to guess the meaning of unknown words while 5.6% disagreed. Online chat with a peer was agreed by 83.3% to assist them in guessing about information in the passage. This skill continues to rank very highly (M=4.22).
Lastly, only 55.5% of the participants agreed that, in future reading classes, they would do better in reading comprehension activities using online chats rather than in face-to-face discussion. Of the remainder, 22.2% disagreed and 22.2% had no opinion. In conclusion, a powerful and positive attitude was displayed towards using the text-based online chat with peers to understand reading passages by the participants.

Table 4.7
Frequency, Percentage, Means and Standard Deviation of the Experimental Group Towards Peer-collaborative Dialogue on their Reading Comprehension

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>I enjoy working with a partner in understanding the reading passages.</td>
<td>Undecided</td>
<td>2</td>
<td>11.1</td>
<td>M=4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>5</td>
<td>27.8</td>
<td>SD=.707</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>11</td>
<td>61.1</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>By discussing the passage with my partner, I understand better what I read.</td>
<td>Disagree</td>
<td>1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>2</td>
<td>11.1</td>
<td>M=4.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>6</td>
<td>33.3</td>
<td>SD=.895</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>9</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Discussing the passage with my partner help me in skimming to get the main idea of the passage.</td>
<td>Disagree</td>
<td>1</td>
<td>5.6</td>
<td>M=4.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>1</td>
<td>5.6</td>
<td>SD=.758</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>11</td>
<td>61.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>5</td>
<td>27.8</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Discussing the passage with my partner help me to distinguish between the main ideas and the supporting ideas.</td>
<td>Strongly Disagree</td>
<td>1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>5</td>
<td>27.8</td>
<td>M=3.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>9</td>
<td>50.0</td>
<td>SD=.958</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>3</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Discussing the passage with my partner help me better to scan the passage for specific information.</td>
<td>Undecided</td>
<td>2</td>
<td>11.1</td>
<td>M=4.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>10</td>
<td>55.6</td>
<td>SD=.647</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>6</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>I prefer looking up unknown words in the dictionary rather than asking my partner about them.</td>
<td>Strongly Disagree</td>
<td>5</td>
<td>27.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree</td>
<td>8</td>
<td>44.4</td>
<td>M=2.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>2</td>
<td>11.1</td>
<td>SD=1.274</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>2</td>
<td>11.1</td>
<td></td>
</tr>
<tr>
<td>1.7</td>
<td>Discussing the passage with my partner makes it easier for me to guess the meaning of the unknown words from the context.</td>
<td>Disagree</td>
<td>1</td>
<td>5.6</td>
<td>M=4.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>1</td>
<td>5.6</td>
<td>SD=.786</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>10</td>
<td>55.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>6</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>1.8</td>
<td>Discussing the passage with my partner help me to make guesses about the information in the passage.</td>
<td>Undecided</td>
<td>2</td>
<td>11.1</td>
<td>M=4.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>8</td>
<td>44.4</td>
<td>SD=.686</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>8</td>
<td>44.4</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Statement</td>
<td>Response</td>
<td>Frequency</td>
<td>Percent</td>
<td>Overall</td>
</tr>
<tr>
<td>-----</td>
<td>-----------</td>
<td>-------------------</td>
<td>-----------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>1.9</td>
<td>I am concerned that my partner’s explanations of the passage might be incorrect.</td>
<td>Strongly Disagree</td>
<td>3</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree</td>
<td>9</td>
<td>50.0</td>
<td>M=2.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>2</td>
<td>11.1</td>
<td>SD=1.037</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>4</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>1.10</td>
<td>Reading classes would be interesting to me if there were a collaboration with partners.</td>
<td>Undecided</td>
<td>1</td>
<td>5.6</td>
<td>M=4.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>8</td>
<td>44.4</td>
<td>SD=.616</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>9</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>1.11</td>
<td>In future reading classes, I can complete classroom activities more successfully with my partner rather than by myself.</td>
<td>Disagree</td>
<td>1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>3</td>
<td>16.7</td>
<td>M=4.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>6</td>
<td>33.3</td>
<td>SD=.924</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
<td>8</td>
<td>44.4</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.8

Frequency, Percentage, Means and Standard Deviation of the Experimental Group Towards Peer-Collaborative Dialogue on their Reading Comprehension in SCMC.
Online chat with my partner makes it easier for me to notice the specific details in the passages.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

\[ M=4.0 \quad SD=.84 \]

Discussing different words during the online chat with my partner, makes it easier for me to guess the meaning of unknown words.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

\[ M=4.17 \quad SD=.857 \]

Online chat with my partner makes it easier for me to make guesses about information in the passage.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

\[ M=4.22 \quad SD=.878 \]

In future reading classes, I would do better in reading comprehension activities using online chat rather than face-to-face discussion.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

\[ M=3.87 \quad SD=.425 \]

### 4.2.2 One Sample T-test

A one-sample test was used to assess if it is reliable to conclude that, overall, the experimental group participants demonstrated a strong and positive response to the attitudinal scale statements. To achieve this, the average responses were checked against the test value score of 3.0 (undecided). The response will be considered positive if the average is over 3.0 and negative if otherwise.

Table 4.9

**One Sample T-test for Overall Attitude**

<table>
<thead>
<tr>
<th></th>
<th>( N )</th>
<th>( \text{Means} )</th>
<th>Test Value= 3</th>
<th>( \text{Means} )</th>
<th>( t )</th>
<th>( df )</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes toward comprehending reading passages through collaboration with a peer</td>
<td>18</td>
<td>3.8739</td>
<td>3.0</td>
<td>.42485</td>
<td>8.727</td>
<td>17</td>
<td>.000</td>
</tr>
<tr>
<td>Attitudes toward using collaborative text-based SCMC with a peer to comprehend reading passages</td>
<td>18</td>
<td>4.0261</td>
<td>3.0</td>
<td>.50829</td>
<td>8.565</td>
<td>17</td>
<td>.000</td>
</tr>
</tbody>
</table>
As shown in Table 4.9, a significant result was found for both the average scores to the statements towards the effectiveness of peer-collaborative dialogue on their reading comprehension (M=3.87, SD=.425), t(17) = 8.727, p<.05, and the statements expressed the attitudes of the participants towards using text-based online chat with a partner to understand reading passages (M=4.03, SD=.508), t(17)=8.565, p<.05 with a reported p-value (sig) of .000.

Based on the results from the scale of attitudes, we conclude safely that a strong and positive attitude was expressed by the participants towards the effectiveness of peer-collaborative dialogue on their reading comprehension in SCMC.

4.3 Discussion

The current study investigated the effect of peer-collaborative dialogue in SCMC on EFL students’ reading comprehension achievement and explored their attitude toward their dialogical collaboration in SCMC. By employing quantitative instruments, the following section discusses the results of the present study in response to the research questions.

4.3.1 Discussion of the results related to the first research question

With respect to the first question, ‘Is there a statistically significant difference between the EFL students’ reading comprehension performances due to peer-collaborative dialogue in SCMC?’, the findings revealed that the experimental group demonstrated a statistically significant improvement in their reading comprehension scores from the pre-test to post-test. This result agreed with the findings of several studies. Fan’s study (2012) which found a powerful effect of collaborative dialogue on EFL students by contributing and co-constructing what they know to comprehend the reading passages. Al-Roomy (2013), Nejad and Keshavarzi (2015), Al-Jadoa (2016) and Al-Qahtani (2016) who indicated that various collaborative behaviors have a positive impact on the students' reading achievements. Studies by Al-Fageeh (2014), Bataineh and Mayyas (2017), Rad (2018) and Rama et al. (2018) which approved the
positive effect of CMC environments (Wiki, Moodle and Schoology) in collaborative reading comprehension performance.

This significant effect of collaborative dialogue in SCMC on EFL students’ reading comprehension could be attributed to several reasons based on the rich LREs they have produced during their dialogical interactions in Moodle. Firstly, collaborative behavior was found on many occasions during their dyadic discussions. Such behavior assisted them greatly to co-construct their knowledge about the reading passage, as they were asking each other for further explanation and help and mutually checking their peers’ comprehension. A similar result was approved in Fan’s study (2012) and a study by Tare et al. (2017). Extract 1 shows how the participants gradually built their knowledge about the unknown meaning of a lexical item and sought additional explanations until they successfully reached a satisfying answer.

Extract 1

Student 1: To be honest I don’t know any of the words in (D), I don't even know what cunning means
Student 2: I think it has the same meaning with cautious, I mean cunning
Student 1: I think it means intelligence
Student 2: no
Student 1: So, should we cross the first word because it means stupidity
Student 2: the people was not smart at that time
Student 2: they were cautious
Student 1: Wait hear me out
Student 1: Humans have brain that’s why they outperform the mammoth
Student 1: Humans manipulated them smartly
Student 2: I don’t understand
Student 1: The last paragraph says how did the humans outperformed the mammoths.
Student 1: That’s what I think
Student 2: ok you make it clear I understand

Extract 2 indicates that the students were eager to check their peers’ comprehension, although it might be easy for them to comprehend the required reading.

Extract 2

Student 3: okay the third Q is B
SCMC-BASED COLLABORATIVE DIALOGUE AND READING

Student 4: yeah, I agree
Student 3: you know why?
Student 4: it’s written
Student 4: 1908 the after 3 years
Student 4: it’s clearly B

A second reason may be related to the fact that collaboration provided a profound and precise reading process for the experimental group: a process that may not have been given to the control group. The experimental group pairs were given many chances to elaborate and question their comprehension of the passages. Their collaborative talks allowed for heedful readings that promoted more rational questionings and negotiations, which in turn, co-constructed their comprehension gradually. This result is in accordance with Al-Qahtani (2016), who found a collaborative approach effective in exhibiting a careful and deeper reading compared to traditional reading techniques. Extract 3 is drawn out from the present study and proves how thoroughly the dyadic pairs are negotiating their thoughts and questioning ideas to solve the problem in the activity.

Extract 3

Student 3: question C is footprint, right?
Student 4: ok what the first word means ?
Student 3: honestly, I don’t know what does it mean, but think about it, who would ever dig for a footprint
Student 3: perhaps Fossils
Student 4: but it does not necessarily include digging
Student 3: ‘dig’
Student 4: so, the word in the question means remains, does not it?
Student 3: yes
Student 4: ok it's impossible to dig for footprints
Student 4: I'm confused
Student 3: I have heard "carcass" before, I think it means a dead body
Student 4: ok then footprints it is
Student 3: it is hard to search for a footprint, it needs special and rare circumstances
Student 4: ok that's fair

Finally, carrying out collaborative dialogue in text-based SCMC contributed to the present study’s result by offering a non-threatening and easy-going language learning
environment to EFL students. They were able to surpass the boundaries of their traditional reading classes with free and authentic expressions that led to more comprehensive understanding of passages. This finding is in line with Al-Fageeh’s study (2014), who found that SCMC environments contributed positively to improve the students’ collaborative reading. Moreover, SCMC, represented in Moodle, enhanced the participants’ confidence and sense of achievement, which was reflected in a better reading comprehension. Such a result was obtained in Bataineh and Mayyas (2017) and Rad (2018). Extract 4, 5 and 6 show the students’ attempts to declare, boldly and freely, their opinions of the activities and admire their achievements.

Extract 4

Student 5: Student 6, the task is very difficult
Student 6: Hey, it is not wait to I finish.
Student 5: Listen bring your laptop, now
Student 5: And help me. I can’t do it alone.

Extract 5

Student 7: Next question. Student 8, it is right too
Student 8: that was a piece of cake
Student 7: finnaalllllyyy. This activity was great better than the last one
Student 8: Yessss we did it
Student 8: You are the best partner everrrrr
Student 7: much love

Extract 6

Student 9: you know what, it reminds me of HBO series Chernobyl.
Student 10: come on Raghad focus on the passage. it not that easy.
Student 9: look at words like thermonuclear and fuel.
Student 9: I swear I can hear them in the actor's voice.

Furthermore, the results of the ANOVA test and descriptive statistics indicate that the making inferences skill is the most affected skill compared to other reading skills by text-based dyadic collaborative dialogue. It is worth mentioning that the scanning skill ranked first with the highest pre-test average means for both groups and it continued as the highest post-test.
means for the control group, yet it ranked second over the making inferences skill after carrying out collaborative dialogues in Moodle.

Indeed, the reasons mentioned above justify this result and pave the way of concluding that the making inferences skill is the most positively influenced skill. Based on the peers’ Extract 7 and 8, many pairs succeeded in going deeper into the inferential level of their comprehension. EFL students were able to build logical conclusions assumptions from the passage mutually that they would not have been able to do if they were reading individually. Thereby, collaborative dialogue is concluded to be potentially effective since it touches in-depth skills such as the reading comprehension skill. This result supports the findings of Al-Roomy (2013), who concluded that collaborative behavior enhances the students’ reading comprehension process, so that it is not monopolized by the lexical knowledge of words (basic levels) but moves to beyond the merely written lines and reaches inferential levels.

Extract 7
Student 8: ok the next question
Student 7: it says that Anne lived in Avonlea.
Student 7: I guess it's A
Student 8: or is it B?
Student 7: her writings are somehow derived from her own life
Student 7: No, I don't think it's B
Student 7: because the passage was comparing his work to hers
Student 8: OK
Student 8: but didn't he write before her or something?
Student 7: it is like admitting that no one could reach Marks’ works except Lucy
Student 8: I got it now.
Student 7: Canada has produced only one classic children's tale to rank with Alice's Adventures in Wonderland and the works of Mark Twain; this was Anne of Green Gables by Lucy Maud Montgomery.
Student 8: yeah. I get it. So, it's either A or B
Student 7: I feel A is more convincing

Extract 8
Student 11: ok last one.
Student 12: what do you think?
Student 11: do you think humans hunted mammoths before?
Student 12: I think so. Look at the second paragraph. Line 4
Student 12: so, they were with humans before, it is like moved to new place.
Student 11: yeah, is it supposed that humans smarter than animals.
Student 12: animals' instinct is different from humans', they probably escaped because humans were severe with mammoths and hunting them
Student 12: they might be looking for a new land where safety and food is found, and for other reasons
Student 11: girl. You are right.
Student 12: yeah.

The present study’s result partially supported Bataineh and Mayyas’s study (2017), since the scanning skill is the second affected skill with a very close result. Although they did not investigate the making inferences skill, Bataineh and Mayyas (2017) arrived at a similar conclusion. They confirmed that scanning is the mostly impacted skill by Moodle, as the supplementation of the students’ reading comprehension surpassed guessing the meaning of unknown words, which ranked second, and it also surpassed skimming as the least affected skill.

4.3.2 Discussion of the Results Related to the Second Research Question

Regarding the second research question, ‘What are Saudi EFL students’ attitudes towards the effectiveness of peer-collaborative dialogue on their reading comprehension in SCMC?’, the results showed that the average scores of experimental group participants in both domains of the scale are higher than 3 (Neutral= 3.00). Thus, the findings demonstrated that EFL students hold positive attitudes towards the dyadic collaborative dialogue they had in SCMC on their reading comprehension. This result agrees with the findings of the following studies that elicited the attitudes of EFL students toward collaborative approaches on their reading comprehension achievements: Al-Roomy (2013), Nejad and Keshavarzi (2015), Al-Jadoa (2016), Al-Qahtani (2016) and Elsayed and Fariza (2017). Rama et al. (2018) and Teng (2015) went further by investigating student attitudes toward collaborative learning in SCMC as a prime means of their collaborative environment.
The results of the present study indicated that the participants showed favorable attention and positive prospects. They enjoyed the collaborative discussion with their peers in comprehending the passages with the first highest-means in the scale of attitudes (M=4.50) (Statement 1.1). Likewise, they expressed their enjoyment of the collaboration in SCMC (Statement 2.1). This immense pleasure and enjoyment were also found in the findings of Elsayed and Fariza’s (2017) and Teng’s studies (2015). The participants revealed, with the second highest means, that collaborating dialogically with a peer is not only enjoyable, but it also maintains their interest in the reading materials and Moodle as the medium where these activities were accomplished (Statements 1.10 and 2.3). Consequently, they showed their willingness to perform reading comprehension activities in online collaborative interaction with peers in future classes (Statements 1.11 and 2.11).

Concerning the reading skills, it was found that the participants chose the peer-collaborative dialogue mostly assisted their abilities to make logical guesses and inferences from the passage with the third-highest mean in the scale of attitudes (M=4.33) (Statement 1.8). Additionally, their responses indicated that their dyadic online chat facilitated their inferences-making with a high means as well (M=4.22) (Statement 2.10). What is surprising about their responses is that it matches the results from Table 4.6 and Figure 4.2 as making inferences being the skill that is affected the most by the peer-collaborative dialogue in SCMC. This remarkable finding is also indicated in the studies by Al-Qahtani (2016) and Al-Roomy (2013), which suggest that collaboration has a strong potential to motivate EFL students and move their ability to a higher level of reading comprehension. This was evidenced, too, in the extracted LREs in the present study.

Moreover, the participants responded to scanning and guessing meanings of unknown words skills as somewhere in the middle as being affected by the collaborative dialogue and online-chat (Statements 1.5, 1.7, 2.8 and 2.9). It is noteworthy that the participants declared
their desire to seek the meaning of unknown words from their peers as a source of knowledge instead of using the dictionaries (Statement 1.6). This behavior of positive interdependence is an indicator of the successful joint construction of their knowledge about the passages. This result is approved in Al-Roomy's (2013) study, which indicates that students gladly approved of seeking help from their peers. Lastly, skimming was the least favored skill by the participants with low means (M=4.11 M=3.72 and M=3.56) compared to the other skills (Statements 1.3, 1.4 and 2.7). The result indicated that the participants found collaborative dialogue fairly helpful in grasping key and supportive ideas of the texts. This finding is, to some extent, compatible with Elsayed and Fariza (2017), who reported that more than 85% of students agreed on the significance of collaboration in drawing their attention to key points in the text.

Eventually, the participants showed affirmative responses toward the general attitude of the effectiveness of SCMC-based peer-collaborative dialogue on their comprehension ability. The majority of EFL students believed that collaborative talks with a peer improved their comprehension of the passage (Statement 1.2). Such a positive belief was supported by several studies (Al-Jadoa, 2016; Al-Roomy, 2013; Elsayed & Fariza, 2017; Nejad & Keshavarzi, 2015). Besides, the students expressed that they had no doubts concerning the accuracy of their peers’ explanations (Statement 1.9). This attitude was consistent with their high dependence on their peers to check the meaning of words rather than dictionaries. Certainly, it means that EFL students are aware of the beneficial co-construction of the passage comprehension with reliable peers. This result matches the findings of Al-Roomy (2013) and Teng (2015). Additionally, the results indicated that the students elevated their confidence and readiness level by expressing and sharing their ideas freely with their peers within the SCMC environment (Statements 2.2, 2.4 and 2.6). Similar results are reported in Al-Jadoa (2016), Nejad and Keshavarzi (2015) and Teng (2015), who suggest that collaboration with peers within SCMC reduces nervousness and boosts self-esteem, which in turn, is reflected in greater
reading performance. Lastly, the students favored the collaborative dialogue in text-based SCMC over face-to-face communication, as they found it beneficial to accomplish better reading performance. This finding is confirmed by Rama et al. (2018) and Teng (2015).
Chapter Five

Summary, Conclusions and Recommendations

This final chapter provides a summary of the findings discussed in Chapter Four. This is followed by pedagogical recommendations to enrich EFL students’ reading performance in EFL educational learning context and further suggestions for future researches in the domain of dialogical, electronic collaborative medium. The chapter closes with overall conclusions of the study.

5.1 Summary of the Findings

The present study investigated the impact of peer-collaborative dialogue during text-based synchronous chatting on Saudi EFL students’ reading comprehension. Derived from Vygotskian sociocultural theory, the successful construction of knowledge that is necessary to comprehend the reading passage was credited to EFL students’ collaborative talks in SCMC (Swain, 2000). Throughout the study, the researcher came up with the following summarized results:

As reflected by the experimental group’s pre and post-test scores and their LREs, it is apparent that SCMC-based peer-collaborative dialogue promotes many aspects of their understanding of the reading passages. It allowed for further negotiation and explanation of the passages that contributed to their successful building of their joint knowledge about the passages. Their mutual interpretations were a collaborative remedy to solve various problems they came across while comprehending the passages. It also permitted them to use their peers as a source of knowledge by seeking assistance. By doing so, they showed a favorable sense of interdependency and reliance on their peers, which contributed to a shared building of flourishing comprehension. It enabled them to check their peers’ comprehension, which in turn helped to produce a productive collaborative interaction. Thus, all these aspects resulting from peer-led collaborative dialogues produced higher reading comprehension performance.
Furthermore, the making inferences skill was located as the most affected skill by the peer-collaborative dialogue the students had during SCMC. That was attributed to the potential of collaborative behavior, which grants EFL students a deep and careful reading process that they would not have had if the passages were read individually. In turn, this process encourages them to generate evaluative questionings, make logical inferences and make guesses about the passage. Arguably, the dyadic collaborative dialogue moves EFL students’ ability from the literal level of reading to a more comprehensible level to grasp the implied ideas beyond the lines.

Concerning SCMS as a medium for collaborative dialogues, it was found that it promotes a comfortable and flexible language learning environment for EFL students, which supports their collaborative readings. Moodle is an outstanding alternative compared to face-to-face communication as demonstrated in the EFL students’ confidence and open expressions of what they know about the reading passages. With their vast possibilities of expressing their ideas, they also showed a high sense of self-esteem and appreciation of their accomplishments. Hence, by dint of SCMC, EFL students became engaged in fruitful dialogues, which gave them a satisfying explanation of their reading comprehension improvement.

Finally, the scale of attitudes data revealed EFL students’ positive attitudes toward SCMC-based peer-collaborative dialogue on their reading comprehension. The students preferred dyadic collaborative talks in Moodle, as it granted them an enjoyable and exciting reading experience. Besides, their attitude was more favorable toward the effect of SCMC-based collaborative dialogue on their ability to make inferences about the reading passages than other skills. This attitude was surprisingly reflected in their posttest’s achievement. Furthermore, the students were optimistic about achieving a better reading performance if they experienced the same treatment in future reading classes.
5.2 Pedagogical Implications

Based on the findings of the study, the researcher recommends a number of pedagogical implications for Saudi EFL students, instructors and textbooks designers and policymakers.

The study recommends the classroom settings to be more adapted to new collaborative approaches to promote EFL students’ reading performances. By implementing peer-collaborative dialogues in the context of Saudi classrooms, it would aid in creating an interactive and fruitful context of reading comprehension performances, where EFL students are not restricted to interacting with teachers only but with peers of similar levels to co-construct their understanding of the assigned reading materials.

As the findings can be generalized to include not only English major students, but also preparatory-year students, curriculum designers of university-level textbooks in the Ministry of Education are recommended to revise the prescribed EFL books with more flexible activities and tasks that guarantee the maximum promotion of reading skills. These books are better treated as a reference for EFL teachers. EFL instructors should be receptive toward adopting these activities to generate collaborative work and further discussions among peers. This desirable position would help meet EFL students’ aims of successful reading comprehension.

EFL teachers are advised to take further training provided by the Ministry of Education and educational policymakers. This training can elevate them from traditional abstract teaching methods to become professionally practical in dealing with reading skills and how they are adequately taught. By adopting a peer-collaborative discussion to address Saudi EFL students’ reading deficiencies effectively, we can affirm that we finally moved beyond the traditional oriented teaching methods. Besides, that a bridge between learning theories and applied practices in English language learning is built successfully in the Saudi context.

The study provides insight for creating successful knowledge-building and developing better reading comprehension ability in an online collaborative medium. This would not
happen unless the EFL students are ready to be engaged in a process of the mutual building of linguistic knowledge in SCMC. Therefore, EFL students need to receive sufficient training in using CMC to create a collaborative learning community where they are encouraged to negotiate their ideas, take a part in their shared knowledge construction and be responsible for their learning process.

Finally, SCMC is approved as a secure and comfortable learning environment for EFL students to practice English outside traditional classes. It has been positively applauded by the younger generation of L2 learners. Thus, textbook designers and developers at the university level should devote extra attention to not only the activities, but to integrate technologies in EFL classrooms to compensate for the scarce chances of using the target language in the Saudi EFL context. By doing so, the doors are opened wide for countless collaborative linguistic knowledge building opportunities in which EFL students perform dialogic interactions exceeding the limits of time and place imposed by classroom walls. Undeniably, CMC, in this case, becomes an incentive that gives a rise to a better language learning experience rather than a mere supplement.

5.3 Recommendations for Future Researches

To expand the existing knowledge of dyadic collaborative dialogue research in SCMC, the researcher proposes the following recommendations for future researches:

1- More studies are needed to explore the desirable effect on a larger sample, on the male gender or on further reading comprehension skills to increase the representativeness of the findings.

2- Further researches should investigate the impact of collaborative dialogue in SCMC qualitatively by using reflective journals and interviews to elicit more accurate attitudes from EFL students.
3- It would be essential to fill in the literature gap and enhance the dyadic collaborative dialogue domain by examining its effects on developing EFL students’ listening or writing skills.

4- The present study used Moodle as the SCMC tool. It would be useful to keep pace with up-to-date technologies among L2 learners and explore the collaborative talks carried out in trendy SCMC tools on their mutual knowledge-constructions to improve the language learning process.

5- The present study's participants employed a fraction of their first language (L1) in their co-construction of the passage's knowledge. Therefore, a research that investigates the role of L1 in the shared building of L2 knowledge through SCMC-based collaborative dialogue is needed.

5.4 Conclusions

The purpose of the study was to examine the possible effect of peer-collaborative dialogue in text-based online chats on Saudi EFL students’ reading comprehension achievements. The study was motivated by remarkable deficiencies in Saudi EFL students’ reading abilities, which definitely will be mirrored in their general language learning process. Thus, the researcher drew upon Swain’s (2000) dyadic collaborative dialogue, in which EFL students collaboratively build their knowledge of passages, as a remedy to foster their reading comprehension. Furthermore, due to the massive increase of synchronous text-based chats in recent years, the researcher selected SCMC as an environment where the students’ collaborative talks occur.

The researcher can conclude this study with an emphasis on the positive effect of applying collaborative dialogue to boost the process of comprehending the passages in the SCMC context. Accordingly, peer-collaborative dialogue is approved to be valuable for reading comprehension. It fosters an effective co-construction of knowledge about the reading
passages and achieving a successful, mutual comprehension the EFL students could not have accomplished by their own. Furthermore, text-based SCMC magnifies the desired effect by providing EFL students opportunities to carry out collaborative discussions outside traditional classrooms’ walls in a desirable and stress-free environment.

The findings of this study significantly fill the gap in the existing literature since reading is an under-researched skill in this domain. It is assumed that the study's findings would help educational policymakers, EFL instructors, curriculum designers and developers in Saudi Arabia to enhance and develop more effective EFL learning context for Saudi EFL students. It is hoped that the present study could give a clear picture of dyadic collaborative dialogue effect (acted as EFL students’ output) on reading comprehension achievements (defined as input skill) as well as their attitudes towards their text-based synchronous collaboration for a better language learning context.
References


Appendices

Appendix A

Consent to Participate in Research

**The Title of Project:**
The Effect of Peer-collaborative Dialogue on Saudi EFL Students’ Reading Comprehension in Synchronous Computer-Mediated Communication

**Investigator:**
Ghada Abdullah Abdulaziz Al-Mutrafi, Master Program in Linguistics.
Imam Muhammad Ibn Saud Islamic University, College of Languages and Translation

**Please initial box**

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<table>
<thead>
<tr>
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<tr>
<td>1-</td>
<td>I confirm that I have read and understand the Participant Information Page.</td>
</tr>
<tr>
<td>2-</td>
<td>I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. Also, I understand that if I decided to withdraw at any time; all data that I provided will be removed from the research project.</td>
</tr>
<tr>
<td>3-</td>
<td>I understand that participation involves performing reading activities on a weekly basis for three weeks while using the text-based online chat with a partner.</td>
</tr>
<tr>
<td>4-</td>
<td>I consent to the use of my data in this study; I understand that I will not be identifiable in any published work.</td>
</tr>
<tr>
<td>5-</td>
<td>I agree to take part in the above study.</td>
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</table>

________________________ ________________ ____________________
Name of Participant                      Date                      Signature

Ghada Abdullah Al-Mutrafi. ________________ ____________________

Researcher                      Date                      Signature
Appendix B

Pre-test and Post-test

Reading Comprehension Test

Name: ……………………………… Date: ………………………

In this reading comprehension test, you will read 3 passages. Each one is followed by 7 questions. Please choose the correct answer to each question.

Passage One (242 words)

Georgia O'Keeffe was born in Sun Prairie, Wisconsin, in 1887. She studied art in Chicago and New York from 1904 to 1908. She began her career as an advertising painter. She supported herself until 1918 by teaching in many schools and colleges in Texas. After that date, she devoted herself completely to the painting. Her paintings were first displayed in 1916 at an experimental art gallery in New York City called 291. The art gallery was owned by Alfred Steiglitz which was frequented by some of the important artists of the time.

O'Keeffe married Steiglitz in 1924. Most of O'Keeffe's first paintings were abstract designs. In the 1920's, she painted drawings of flowers and detailed cityscapes of New York City. Whether painting flowers or buildings, she captured their beauty by enlarging their shapes and simplifying their details.

O'Keeffe's style changed greatly in 1929 during a visit to New Mexico. She was enchanted by the hard but beautiful landscapes under the bright Southwestern sun. Therefore, she adopted her characteristic style. After that, she most often painted desert landscapes. She loved to paint a white skull with long horns in the foreground.

O'Keeffe's paintings were displayed every year at several New York galleries until 1946. Also, O'Keeffe is represented in the constant collections of the major American museums. In her later years, she settled in Taos, New Mexico. She became the dean of Southwestern painters and one of the best known of American artists.

1. According to the article, where did Georgia O'Keeffe receive her formal art training?
   (A) Sun Prairie, Wisconsin  
   (B) Chicago and New York  
   (C) Texas  
   (D) Taos, New Mexico.

2. The underlined expression "that date" in line 3 refers to:
   (A) 1887  
   (B) 1908  
   (C) 1916  
   (D) 1918
3. The underlined word "frequented" in line 6 is closest in meaning to:

(A) visited
(B) supported
(C) founded
(D) favored

4. Which of the following had the greatest influence on changing O'Keeffe's style of painting?

(A) A trip to the Southwest
(B) Alfred Steiglitz's photographs
(C) Her job as an advertising illustrator
(D) Meeting influential artists

5. The underlined word "enchanted" in line 12 is closest in meaning to:

(A) careless.
(B) depressed.
(C) fascinated.
(D) nervous.

6. It can be understood from the passage that, in her later years, O'Keeffe

(A) continued to be successful
(B) returned to New York City
(C) could not match the successes of her early career
(D) took up photography

7. This passage mainly

(A) describes the marriage life of O'Keeffe and Steiglitz.
(B) explains the painting characteristics of all-American artists.
(C) gives the highlights of Georgia O'Keeffe's artistic career.
(D) compares abstract art and landscape art.

Passage Two (163 words)

American jazz is a beautiful mixture of sounds borrowed from varied sources such as American and African folk music, European classical music and Christian gospel songs. One of the main characteristics of jazz is its use of improvisation; certain parts of the music are written out and played the same way by various performers, and other improvised parts are created spontaneously during a performance and differ widely from performer to performer.

The earliest form of jazz was the ragtime. It is lively songs or rags performed on piano. The best known of the ragtime performers and composers was Scott Joplin. He was born in 1868 to former slaves. He earned his living from a very early age playing the piano in bars along the Mississippi. One of his regular jobs was in the Maple Leaf Club in Sedalia, Missouri. It was there where he began writing more than 500 compositions, of which “The Maple Leaf Rag” was the most famous he ever produced.
1. This passage is about:
   (A) Jazz in general and one specific type of Jazz.
   (B) various sources of jazz
   (C) the life of Scott Joplin
   (D) the major characteristics of jazz

2. According to the passage, ragtime was
   (A) generally performed on a variety of instruments
   (B) the first type of jazz
   (C) extremely soothing and calm
   (D) performed only at Maple Leaf Club in Sedalia.

3. Which of the following statements is true according to the passage?
   (A) Scott Joplin was a slave when he was born
   (B) Scott Joplin's parents had been slaves before Scott was born
   (C) Scott Joplin had formerly been a slave, but he no longer was after 1868
   (D) Scott Joplin's parents were slaves when Scott was born

4. The underlined word "living" in line 8 could be best replaced by:
   (A) money
   (B) life-style
   (C) enjoyment
   (D) health

5. How would the author probably feel about the passage?
   (A) The author delivers a negative message about the effect of Jazz music.
   (B) The author is mad at the loss of Jazz music and its composers in the present time.
   (C) The author criticizes the Jazz music and the famous compositions in 19th century.
   (D) The author expresses his neutral attitude toward Jazz music.

6. The name of Scott Joplin’s most famous composition probably came from:
   (A) The name of saloon where he performed.
   (B) The maple tree near his Sedalia home.
   (C) The name of the town where he was born.
   (D) The school where he learned to play the piano.

7. The paragraph following this passage probably discusses:
   (A) Sedalia, Missouri
   (B) The Maple Leaf Club
   (C) the numerous compositions of Scott Joplin
   (D) the life of Scott Joplin.
Passage Three (171 words)

Most people think of the desert as dry, flat areas with little plants and little or no rainfall, but this is hardly true. Many deserts have different geographical formations ranging from soft, rolling hills to stark, rough cliffs. Also, most deserts have a permanent source of water. Although deserts do not receive a high amount of rainfall - to be classified as a desert, an area must get less than twenty-five centimeters of rainfall per year - there are many plants that thrive on only small amount of water, and deserts are often full of such plant life.

Desert plants have a variety of mechanisms for obtaining the water needed for survival. Some plants, such as cactus, are able to store large amount of water in their leaves or stems. After the rainfall, these plants take in a large supply of water to last until the next rainfall. Other plants, such as the mesquite, have very deep root systems that allow them to obtain water from far below the desert’s arid face.

1. What is the main topic of the passage?
   (A) deserts are dry, flat areas with few plants.  
   (B) there is little rainfall in the desert  
   (C) many kinds of plants can survive with little water  
   (D) deserts are not really flat areas with a little plant life

2. The passage implies that:
   (A) the typical conception of deserts is incorrect  
   (B) all deserts are dry, flat areas  
   (C) most people are well informed about deserts  
   (D) the lack of rainfall in deserts causes the lack of vegetation

3. The underlined word “source” in line 3 means:
   (A) storage-space  
   (B) supply  
   (C) need  
   (D) back

4. According to the passage, which causes an area to be classified as a desert:
   (A) the type of the plants found  
   (B) the geographical formations  
   (C) the amount of rainfall  
   (D) the source of water

5. The underlined word “Mesquite” in line 10 is probably:
   (A) a type of tree  
   (B) a type of animal  
   (C) a type of cactus  
   (D) a geographical formation in the desert

6. The underlined word “arid” in line 11 means:
   (A) deep  
   (B) dry  
   (C) sandy  
   (D) shallow
7. Where in the passage does the author describe desert vegetation that keeps water in its leaves?
   (A) Line 1 – 2
   (B) Line 3 – 5
   (C) Line 7 – 9
   (D) Line 9 – 11

Key answers:

Passage one:

1. (B)  2. (D)  3. (A)  4. (A)  5. (C)  6. (A)  7. (C)

Passage two:

1. (A)  2. (B)  3. (B)  4. (A)  5. (D)  6. (A)  7. (C)

Passage three:

1. (D)  2. (A)  3. (B)  4. (C)  5. (A)  6. (B)  7. (C)
Appendix C

Kingdom of Saudi Arabia
Ministry of Education
Al-Imam Muhammad Ibn Saud Islamic University
College of Languages and Translation
Department of English Language and Literature

EFL Students' Attitudes of collaborative dialogue on their reading comprehension in SCMC Scale.

Dear participants:

The researcher is conducting a study in partial fulfillment of the MA degree in Linguistics at Imam Mohammad Ibn Saud Islamic University. The study aims to investigate the effect of peer-collaborative Dialogue on Saudi EFL Students' reading comprehension in text-based synchronous computer-mediated communication (SCMC). The goal of this scale is to discover the attitudes of EFL students' at Shaqra University toward the effectiveness of peer-collaborative dialogue carried out in Moodle on their reading comprehension achievement.

Your participation is highly appreciated. The researcher would kindly request you to take a few minutes to indicate your level of agreement or disagreement regarding the scale statements. Please note that any bit of information provided will be used only for research purposes and will be kept confidential.

The researcher,
Ghada Abdullah Al-Mutrafi
gaaalmutrifi@sm.imamu.edu.sa
**Instructions:**

Please, respond to each statement by putting check (√) in the space that represents your opinion.

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>A. Attitudes toward understanding the reading passages through collaboration with a partner.</td>
<td></td>
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<tr>
<td>1.1</td>
<td>I enjoy working with a partner in understanding the reading passages.</td>
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<td>1.2</td>
<td>By discussing the passage with my partner, I understand better what I read.</td>
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<td>1.3</td>
<td>Discussing the passage with my partner help me in skimming to get the main idea of the passage.</td>
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<td>1.4</td>
<td>Discussing the passage with my partner help me to distinguish between the main ideas and the supporting ideas.</td>
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<td>1.5</td>
<td>Discussing the passage with my partner help me better to scan the passage for specific information.</td>
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<td>1.6</td>
<td>I prefer looking up unknown words in the dictionary rather than asking my partner about them.</td>
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<td>1.7</td>
<td>Discussing the passage with my partner made it easier for me to guess the meaning of the unknown words from the context.</td>
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<td>1.8</td>
<td>Discussing the passage with my partner helped me to make guesses about the information in the passage.</td>
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<td>1.9</td>
<td>I am concerned that my partner’s explanations of the passage might be incorrect.</td>
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<tr>
<td>1.10</td>
<td>Reading classes would be interesting to me if there were a collaboration with partners.</td>
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<tr>
<td>1.11</td>
<td>In future reading classes, I can complete classroom activities more successfully with my partner rather than by myself.</td>
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</table>
B. Attitude toward using text-based online chat with a partner for understanding reading passages.

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<tbody>
<tr>
<td>2.1</td>
<td>I enjoy online chatting about the reading passages.</td>
</tr>
<tr>
<td>2.2</td>
<td>I feel confident chatting with my partner online about the reading passages.</td>
</tr>
<tr>
<td>2.3</td>
<td>I find the reading comprehension activities interesting in Moodle.</td>
</tr>
<tr>
<td>2.4</td>
<td>Chatting online with my partner help me to express what I know about the passage freely.</td>
</tr>
<tr>
<td>2.5</td>
<td>My discussion with my partner is more useful in online chat than in face-to-face communication.</td>
</tr>
<tr>
<td>2.6</td>
<td>Chatting online with my partner help me to ask her questions about the passage without hesitation.</td>
</tr>
<tr>
<td>2.7</td>
<td>Online chat with my partner makes it easier for me to skim the passage to get the main idea.</td>
</tr>
<tr>
<td>2.8</td>
<td>Online chat with my partner makes it easier for me to notice the specific details in the passages.</td>
</tr>
<tr>
<td>2.9</td>
<td>Online chat with my partner makes it easier for me to guess the meaning of unknown words.</td>
</tr>
<tr>
<td>2.10</td>
<td>Online chat with my partner makes it easier for me to make guesses about information in the passage.</td>
</tr>
<tr>
<td>2.11</td>
<td>In future reading classes, I would do better in reading comprehension activities using online chat rather than face-to-face discussion.</td>
</tr>
</tbody>
</table>
## Appendix D

**Validation Committee**

<table>
<thead>
<tr>
<th>Name of Experts</th>
<th>Rank and Specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Mohammad Nasser Al-Huqbani.</td>
<td>Professor of Applied Linguistics at Al-Imam Mohammad Ibn Saud Islamic University.</td>
</tr>
<tr>
<td>Dr. Safaa Mahmoud Abdelhalim.</td>
<td>Associate Professor of TESOL at Al-Imam Mohammad Ibn Saud Islamic University.</td>
</tr>
<tr>
<td>Dr. Omar Na'eem Baniabdulrahman.</td>
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<td>Dr. Mohammad Mahmoud Abdel Latif.</td>
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<tr>
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<td>Assistant Professor of Applied Linguistics at Al-Imam Mohammed Ibn Saudi Islamic University</td>
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</tbody>
</table>
Appendix E
Reading Comprehension Activities
Week one:

What Happened to the Giant Animal?
Reading Comprehension Activity (1) - (60.1 readability /272 words)

The time when humans crossed the Arctic land bridge from Siberia (Old world) to Alaska (New World) seems remote to us today. This migration actually represents a late stage in the prehistory of humans, a time when polished stone tools and bows and arrows were already being used, and dogs had already been trained.

When these early migrants arrived in North America, they found the woods and plains full of by three types of American mammoths. These elephants were different from today's elephants mainly by their thick, hairy coats and their huge curved tusks. The mammoths had arrived on North American continent hundreds of thousands of years before the humans. The wooly mammoth in the North, the Columbian mammoth in middle North America and the imperial mammoth of the South. Therefore, the mammoths together with dominated the land with their distant cousins; the mastodons. Here, as in the Old World, there is evidence that humans hunted these elephants. The researchers believed that because of many spear points found with mammoth remains.

Then, at the end of the Ice Age, when the last iced-lands and rivers had melted, there was a sudden extinction of elephants. In the New World, both mammoths and mastodons disappeared. In the Old World, only Indian and African elephants survived.

Why did these huge, successful mammoths disappear? Were humans connected with their extinction? Perhaps, but at that time, although they were clever hunters, humans were still widely spread and not very numerous. It is difficult to see how they could have won over the mammoth to such an extent.
Answer the following questions:

1. The bold words are words from the passage. Cross out the words that have different meaning from the bold word.

a. “The use of iron for arms and implements now finally won over bronze”.
   - tools - carvings - appliances

b. “Elephants can carry tusks of a dead member for long distances or may try to cover them with dirt or leaves”.
   - snout - tooth - ivory

c. “We actually could get in and dig through the wreckage and look for remains”.
   - carcass - footprint - bones

d. “The man's cunning manipulations lead to his success”.
   - ingenious - adroit - cautious

2. Read the statements. Write (T) for true statements and (F) for false statements:

a. The prehistoric humans at the time of the mammoths' extinction were spread in a small area (   ).

b. The imperial mammoths were the dominant type of mammoth in the southern part of North America (   ).

c. The phrase "these early migrants" refers to the humans. (   ).

d. The humans moved to North America hundreds of thousands of years before the mammoths (   ).

3. Choose the best answer to complete the statements below.

a. The main idea of the passage is .......
   (A) Migration from Siberia to Alaska
(B) Techniques used to hunt mammoths
(C) The prehistory of humans
(D) The relationship between man and mammoth in the New World.

b. The type of elephants the author mainly discusses in the passage is….
   (A) The mastodon
   (B) The mammoth
   (C) The Indian elephant
   (D) The African elephant.

4. Check (✓) the statements that you can infer from the passage and (X) the statement that you do not:
   a. The author concludes that the reason of mammoths' extinction is not definitely known.
   b. At the end of the Ice Age, the human’s survival and mammoth’s death in North America seem to be justified.
   c. It can be inferred that when humans crossed into the New World, they had previously hunted mammoths in Siberia.
   d. It can be understood that since the beginning of the prehistory of humans, they used advanced stone implements.

Key Answers:

Week one:
1. a (carvings).  1. b (snout).  1. c (footprint)  1. d (cautious).  2. a (Fales).  2. b (True).
Week two:

Reading Comprehension Activity (2) - (60.5 readability /253 words)

To date, Canada has produced only one classic children's tale to rank with Alice's Adventures in Wonderland and the works of Mark Twain; this was Anne of Green Gables by Lucy Maud Montgomery. Lucy Maud Montgomery was born in Clinton, Prince Edward Island. Her mother died soon after her birth. When her father went to Saskatchewan to seek a business position, she moved in with her grandparents in Cavendish, Prince Edward Island. There she went to school, and later qualified to be a teacher.

Montgomery wrote the Anne books while living in Cavendish and helping her grandmother at the post office. The first of the books, Anne of Green Gables, was published in 1908. In the next three years, she wrote two sequels. Like Montgomery, the heroine of the book is taken in by an elderly couple who live in the fictional town of Avonlea. Montgomery incorporated many events from her life in Cavendish into the Anne books.

In 1911, Montgomery married Ewan MacDonald. The couple soon moved to Ontario, where she wrote many other books. However, it was her first efforts that secured her prominence, and the Anne books are still read all around the world. Her novels have helped create a warm picture of Prince Edward Island's special nature. Several movies, a television series, and a musical play have been based on her tales, and today visitors scour the island for locations described in the book.
Choose the correct answers:

1. The main purpose of this passage is to
   (A) introduce Montgomery and her Anne books.
   (B) contrast Canadian children's literature with that of other countries.
   (C) provide a brief introduction to Prince Edward Island.
   (D) show the similarities between Montgomery's life and that of her fictional character Anne.

2. According to the passage, Montgomery was raised primarily
   (A) in an orphanage
   (B) by her grandparents
   (C) by her mother
   (D) by her father

3. Approximately when did Lucy Maud Montgomery write the two sequels to her book *Anne of Green Gables*?
   (A) From 1874 to 1908
   (B) From 1908 to 1911
   (C) From 1911 to 1913
   (D) From 1913 to 1918

4. The word "elderly" in line 12 is closest in meaning to
   (A) kindly
   (B) old
   (C) friendly
   (D) tricky

5. In the *Anne books*, the main character lives in
   (A) the town of Cavendish
   (B) Saskatchewan
   (C) the town of Avonlea
   (D) Ontario

6. Which of the following can be concluded from the passage about the *Anne books*?
   (A) They were at least partially autobiographical.
   (B) They were influenced by the works of Mark Twain.
   (C) They were not as successful as Montgomery's later works.
   (D) They were not popular until after Montgomery had died.
7. The word "prominence" in line 16 is closest in meaning to
   (A) fame  
   (B) excellence  
   (C) effort  
   (D) failure

9. All of the following have been based on the Anne books EXCEPT
   (A) a television series  
   (B) movies  
   (C) a play  
   (D) a ballet

8. The word "scour" in line 18 could be replaced by which of the following without changing the meaning of the sentence?
   (A) Cleanse  
   (B) Admire  
   (C) Search  
   (D) Request

10. which of the following is the best title for the passage?
    (A) what is the difference between Canadian and American children's classic?  
    (B) Mark Twain’s famous work.  
    (C) The beauty of Canada’s nature  
    (D) An outstanding Canadian writer and her books.

THE END

Key Answers:

Week two:

Week Three.

**Into the Circle of The Sun’s Life**

Reading Comprehension Activity (3) - (74.5 readability /263 words)

The Sun today is a yellow dwarf star. It is fueled by thermonuclear reactions near its center that transform hydrogen to helium. The Sun has been in its present state for about 4 billion, 600 million years. It is thousands of times larger than the Earth.

By studying other stars, *astronomers* can predict what the rest of the Sun's life will be like. About 5 billion years from now, the *core* of the Sun will become smaller and hotter. The surface temperature will fall. The higher temperature of the Sun’s center will increase the rate of thermonuclear reactions. The outer regions of the Sun will expand approximately 35 million miles, about the distance to Mercury, which is the closest planet to the Sun. The Sun will then be a red giant star. Temperatures on the Earth will become too hot for life to exist.

Once the Sun has used up its thermonuclear energy as a red giant, it will begin to shrink. After it shrinks to the size of the Earth, it will become a white dwarf star. The Sun may throw off huge amounts of gases in *violent* explosions called nova explosions as it changes from a red giant to a white dwarf.

After billions of years as a white dwarf, the Sun will have used up all its fuel and will have lost its heat. Such a star is called a black dwarf. After the Sun has become a black dwarf, the Earth will be dark and cold. If any atmosphere remains there, it will have frozen onto the Earth's surface.
Answer the following questions:

1. Read the statements. Write T for true statements and F for false statements.

   a. The sequence of stages that the Sun will pass through begins with red giant stage and ends with nova explosion. (   )
   
   b. The main purpose of this passage is to describe changes that the Sun will go through. (   )
   
   c. The author is mad at how the Sun will end in the universe. (   )
   
   d. The changeable rate of thermonuclear reactions is responsible for the transforming the Sun into a giant or a dwarf (   ).

2. Guess the meaning of the underlined words by matching the words in column A with their definition in column B. One extra choice is given in column B.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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</thead>
<tbody>
<tr>
<td>a) Astronomers</td>
<td>(   ) the central or innermost part of an object.</td>
</tr>
<tr>
<td>b) Violent</td>
<td>(   ) to contract or reduce in size.</td>
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<tr>
<td>c) Core</td>
<td>(   ) heated or generated by burning fuel</td>
</tr>
<tr>
<td>d) Shrink</td>
<td>(   ) a scientist who studies matter and objects in outer space.</td>
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<tr>
<td></td>
<td>(   ) marked by a strong force or energy causing a huge damage.</td>
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</tbody>
</table>
3. Choose the correct answer:
a. It can be inferred from the passage that the Sun……...
   (A) will continue as a yellow dwarf for another 10 billion years.
   (B) has been in existence for 10 billion years
   (C) is rapidly changing in size and brightness
   (D) is approximately halfway through its life as a yellow dwarf

b. As a white dwarf, the passage indicates that the Sun will be
   (A) thousands of times smaller than it is today
   (B) the same size as the planet Mercury
   (C) around 35 million miles in diameter
   (D) cold and dark.

c. What will probably be the first stage of change as the Sun becomes a red giant?
   (A) Its core will cool off and use less fuel.
   (B) Its surface will become hotter and shrink.
   (C) It will throw off huge amounts of gases.
   (D) Its center will grow smaller and hotter.

d. When the Sun becomes a red giant, what will conditions be like on Earth?
   (A) Its atmosphere will freeze and become solid.
   (B) It will be enveloped in the expanding surface of the Sun.
   (C) It will become too hot for life to exist.
   (D) It will be nearly destroyed by nova explosions.

Key Answers:

Week three:

1. a (Fales).  1. b (True).  1. c (False).  1. d (True).
2. a (a scientist who studies matter and objects in outer space).
2. b (marked by a strong force or energy causing a huge damage).
2. c (the central or innermost part of an object).
2. d (to contract or reduce in size).
Appendix F
Formal Letters
Appendix F1
An Application Form of Facilitating Researcher’s Task

<table>
<thead>
<tr>
<th>Name of the applicant:</th>
<th>1101002879</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the applicant:</td>
<td>Saudi Arabian University of Technology</td>
</tr>
<tr>
<td>Gender:</td>
<td>Male</td>
</tr>
<tr>
<td>Age:</td>
<td>27</td>
</tr>
<tr>
<td>Address:</td>
<td>123 Main St, Anytown, USA</td>
</tr>
<tr>
<td>Phone:</td>
<td>555-123-4567</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:applicant@university.edu">applicant@university.edu</a></td>
</tr>
</tbody>
</table>

The Effect of Peer Collaborative Dialogue on Saudi EFL Students' Reading Comprehension in Synchronous Computer-Mediated Communication (SCMC)

**Research Questions:**
- How does peer collaborative dialogue affect Saudi EFL students' reading comprehension in synchronous computer-mediated communication (SCMC)?

**Aims of the Study:**
- To examine the effects of peer collaborative dialogue on Saudi EFL students' reading comprehension in synchronous computer-mediated communication (SCMC).
- To investigate the role of peer collaboration in improving reading comprehension among Saudi EFL students in synchronous computer-mediated communication (SCMC).

**Methodology:**
- A randomized control group design was used.
- Participants were divided into two groups: experimental and control.
- The experimental group engaged in peer collaborative dialogue, while the control group did not.
- Pre-test and post-test measures were administered to both groups.

**Data Analysis:**
- Statistical analysis was conducted using SPSS software.
- Results were analyzed using ANOVA to determine the significance of the differences between the two groups.

**Conclusion:**
- Peer collaborative dialogue significantly improved Saudi EFL students' reading comprehension in synchronous computer-mediated communication (SCMC).
- Participants in the experimental group showed a higher improvement in reading comprehension compared to the control group.

**References:**
宫颈癌的推荐治疗方案

1. الأسلوب العلاجي:
   a. العلاج الهرموني
   b. العلاج الكيميائي
   c. العلاج الوراثي

2. العلاج الهرموني:
   a. الحشرات الهرمونية
   b. الأدوية الهرمونية

3. العلاج الكيميائي:
   a. الأدوية الكيميائية
   b. العلاجات الكيميائية

4. العلاج الوراثي:
   a. الأدوية الوراثية
   b. العلاجات الوراثية

لناجحة العلاج، يجب أخذ العلاجات الهرمونية في مرحلة مبكرة من المرض. إن العلاج الكيميائي هو الخيار الأول في المراحل المتأخرة من المرض.

ال врач

تيرفي

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Appendix F2

The Letter of the Vice-Rector for Graduate Studies and Scientific Research, Al-Imam Muhammad Ibn Saud Islamic University.

 Tessheel Muhama Bayath
Sawada Wokil Jama'a Shqarah Li'dardasad Ita'lla wa l'labath Ulama' Fikmat Allah
Salam Ulizikum wa Rhamatallah .. Amma Badd :

Falashir ilii Rughia al'darss Gadaa 'Abdullah 'Abdal'zeer al-Mutrefi bi-kli'a al'lafaat wa al'turma b'jama'a al'amam fi Ejr... The Effect of Peer Collaborative Dialogue on Saudi EFL Students' Reading Comprehension in Synchronous Computer-Mediated Communication (SCMC)... Assakhmat ul-Mutrefiyat al-Hosool 'Ala Driga al-Majester bi-l'Lafaat.


Walla 'Alli Taffiq ..

Wokil Jama'a Li'dardasad Ita'lla wa l'labath Ulama' D. Muhmade Ibn Nabilalaa al-Muhmade

Ref No: 636-977-409-066-827-245

To verify the information of this certificate visit: dv.imamia.edu.sa
Appendix F3

The Letter of the Vice-Rector for Graduate Studies and Scientific Research, Shaqra University.

The effect of peer collaborative dialogue on Saudi EFL students reading comprehension in synchronous computer-mediated communication scmc

From: The Vice-Rector of Shaqra University

To: The Dean of Graduate Studies

Subject: The Evaluation of the Effect of Peer Collaborative Dialogue on Reading Comprehension in Synchronous Computer-Mediated Communication

Dear Dean,

I am writing to inform you about the results of a recent study conducted in our university regarding the impact of peer collaborative dialogue on reading comprehension in synchronous computer-mediated communication (SCMC) for Saudi English as a Foreign Language (EFL) students.

The study involved a group of EFL students who were divided into pairs and engaged in peer collaborative dialogue to improve their reading comprehension skills. The results showed a significant improvement in their reading comprehension abilities compared to a control group that did not participate in the collaborative dialogue.

The study also found that the peer collaborative dialogue approach was more effective in improving reading comprehension than traditional teaching methods. The participants in the study reported feeling more engaged and motivated during the collaborative sessions.

In conclusion, I recommend that we incorporate peer collaborative dialogue into our teaching methods to enhance the reading comprehension skills of our EFL students. We should also consider integrating SCMC into our curriculum to provide students with a more interactive and engaging learning experience.

Thank you for considering this recommendation.

Sincerely,

[Signature]

[Name]

Deputy Vice-Rector for Graduate Studies and Scientific Research

The Letter of the Vice-Rector for Graduate Studies and Scientific Research, Shaqra University.