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**Reflective Teaching Model for Reading Comprehension**

PhD Dissertation

by

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## **DISSERTATION SUMMARY**

The aim of this study is mainly targeted to develop a reflective teaching model for reading comprehension and to examine its effectiveness in teaching reading comprehension to the students in Myanmar. Therefore, different works of literature from different fields of reflective teaching, reading comprehension, and instructional designs were reviewed to deduce a new idea for reflective teaching in reading comprehension. After the review of different studies, the reflective teaching model for reading comprehension (RTMRC) was theoretically developed in accordance with instructional design criteria and a strong theoretical base in reflective teaching and reading comprehension processes. It was the originality of this current research and also validated with some experts in the fields of instructional design and English language teaching. After that, the empirical research related to the reflective teaching (especially, different classroom research) was compared, and from that, a new methodological idea to conduct the valuable research which is most appropriate with the Myanmar context was extracted. Then the instruments for this study were constructed and the detailed lesson plans for the main study were also written for the participating teachers. The instruments were pre- and post-tests, student questionnaire, and observation scheme. In the pilot study, these instruments were first content-validated with some content experts for cross-cultural use. Second, these instruments were also continuously confirmed their construct validity, and if necessary, they were modified and planned for the main study. As the next step, the main study was conducted to examine whether the reflective teaching model for reading comprehension is effective on students' reading comprehension achievement in Myanmar. In this main study, three teaching strategies; reciprocal teaching, interactive teaching, and questioning, were utilized in the framework of the reflective teaching model (RTMRC) that was self-developed. These three strategies were qualified, compared, and examined for their effectiveness respectively by the RTMRC teaching. Therefore, under the title of the main study, four main parts were presented by dividing them into four sub-studies investigating the effectiveness of these teaching approaches (Reflection-Based Reciprocal Teaching – RBRT; Reflection-Based Interactive Teaching – RBIT; Reflection-Based Questioning Approach – RBQA; Reflective Teaching Model for Reading Comprehension – RTMRC). Therefore, this research study could exclaim that the RTMRC model is not only qualifying different teaching strategies to improve students' reading comprehension achievement but also essential for both teachers and their students for their effective teaching-learning process.

## ABBREVIATIONS

ANOVA	Analysis of Variance
AMOS	Analysis of a Moment Structures
AVE	Average Variance Extracted
CCRT	Cognitive Coaching supported Reflective Teaching
CFA	Confirmatory Factor Analysis
CFI	Comparative fit index
CR	Composite Reliability
CVI	Content Validity Index
EDA	Exploratory Data Analysis
EFA	Exploratory Factor Analysis
ELT	English Language Teaching
ESL	English as a Second Language
HTMT	heterotrait–monotrait
HYIT	Huaiyin Institute of Technology
IIE	Institute of International Education
IRE	Initiate-Response-Evaluate
JICA	Japan International Cooperation Agency
K-W-L	Know-Want-Learned
MOE	Ministry of Education
NESP	National Education Strategic Plan
RBIT	Reflection-Based Interactive Teaching
RBQA	Reflection-Based Questioning Approach
RBRT	Reflection-Based Reciprocal Teaching
RMSEA	Root-Mean-Square Error of Approximation
RTMRC	Reflective Teaching Model for Reading Comprehension
SEA	Situation-Evidence-Action
SEM	Structural Equation Modeling
SRMR	Standardized Root Mean Square Residual
STEM	Service Teacher Education in Myanmar
SPSS	Statistical Package for Social Sciences
UNESCO	United Nations Educational Scientific and Cultural Organization
US	The United States



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## CHAPTER 1

### INTRODUCTION

The concept of 'reflection' has a decades-long history of use. Almost a century ago, John Dewey (1933) had already applied the concept of 'reflection', 'reflective thought', and 'reflective thinking'. Dewey (1933) emphasized the relationship between learning and reflection, and indicated that learners should reflect upon their professional actions and their consequences (Pacheco, 2014). Jaybhaye (2012) also stated that reflection or critical reflection is an activity involving the rethinking process of past experiences, logical consideration and evaluation of these events. Reflection is also an important teaching and learning component for both learners and teachers (Habók & Magyar, 2019). Pacheco (2014) also indicated that reflection and reflective learning have more positive effects on learning that underline the importance of developing and using reflective practices.

Paterson and Chapman (2013) prepared a precise description of the reflective practice to interpret reflective teaching and learning practices more clearly. They mentioned that reflective practice is the teacher's careful consideration of his/her past experiences and modification of them into better ones. Ashraf and Zolfaghari (2018) also explained that reflective teaching is a kind of teaching approach that can encourage teachers to improve their teaching skills by engaging in critical reflection on their teaching-learning process.

Teacher's conscious reflective practice is applied in different fields of education e.g., English as a second language (Fatemipour, 2013), mathematics (Polya, 1945), librarian and informatics education (Sen & Ford, 2009), dance education (Tembrioti & Tsangaridou, 2014), English language teaching (Valdez et al., 2018), and business English (Wu & Wu, 2016). In fact, this study is about reflective teaching in reading comprehension of English in Myanmar. Therefore, it is necessary to know first the background situation of Myanmar, the nature of teachers and education assessment systems, the status of English language teaching and learning, the problem or why the reflective teaching is necessary for the Myanmar context, and how the research is organized.

This chapter is the introductory part of the whole research, and thus, it focuses on three main topics. The first topic explains the background situation of the research including its education system (context of the study). The second topic avers why the research is conducted (problem statement). And the general research organization is presented in the third topic.

## **1.1 Context of the Study**

The study was conducted in Myanmar (known as ‘Burma’ until 1989). It also belongs to the Southeast Asian nations. Myanmar, once a British colony for more than 100 years, uses English as a foreign language and the students learn English starting from their kindergarten level upwards. Starting from 1986-87, English became the instructional medium in all science subjects and economics at the secondary and higher levels of education (Kam, 2002). English is the life-blood for all students’ success (not only in examinations but also in further studies), and thus, many Myanmar students join the English classes from both private and state schools; almost all students also take the private tuitions (additional classes out of the state-school lessons) early in the morning – before the state-school hours and in the evening – after the state-school hours (Tin, 2014).

In fact, Myanmar’s education system is centralized and top-down with Myanmar teachers, schools, colleges, and universities having no autonomy (Ulla, 2017). They are all under government control. That is, the Ministry of Education (MOE) has responsibility for hiring, placing, and promoting qualified in-service teachers (UNESCO, 2020). Myanmar education has been in a poor state in relation to other countries in the world due to the country’s economic difficulties in the last decades (Hayden & Martin, 2013). The evidence of this is clear in the poor condition of classrooms, school buildings, outdated traditional teaching methods, and a lack of training for upgrading teachers’ skills. In fact, the capacity within the country of absorbing the training and new better approaches to educational and different research fields are limited during this time (Goodman, 2013).

After 2010 in which the first general election was held, Myanmar got free from international isolation, various natural disasters, many conflicts among the different ethnic groups, and the consideration as one the poorest nations in the world (Soe, 2015). As democracy develops after that 2010 election, all developmental sectors are urgently required to be upgraded in accordance with the standards of the democratic system (Devi, 2015). For developing human resources, Myanmar’s education reform with the great aim has begun in 2011 when the military was replaced by the democratic civilian government. After the second general election in 2015, the new Democratic Myanmar government has joined with some developed countries: the United States (US Institute of International Education; IIE) and the United Kingdom (British Council), to develop Myanmar teachers’ English proficiency skills (Goodman, 2013), and Japan (Japan International Cooperation Agency; JICA), to update its education system (Ulla, 2017). Various research has focused on teacher training to improve the

skills of educators in Myanmar (Simon, 2013; Ulla, 2017) because most Myanmar teachers depend on more conventional and teacher-centered methods (the bottom-up approaches). Every kind of innovative teaching strategy is useful and essential for the teachers in Myanmar.

## **1.2 Problem Statement**

Nowadays, the English language has waxed and waned in popularity in the world. Almost two billion people around the world use English in their communication, 450 million apply English as their first language while 500 million speak English as their second language, and one billion consider it as their primary foreign language (Harmer, 2005). Harmer (2005) also explained that almost one-third of the whole population around the world is learning English, and thus he predicted that by 2050, half of the world population will speak English fluently. It is a very useful and widely spoken language in the world which could be called ‘the lingua franca’ (Wong, 2016). Therefore, there is no doubt that all youths, who are craving for development, need to learn and comprehend English very well.

According to Lwin (2001), the Myanmar government also encourages English language education for the country’s continuous development and expansion within all dimensions of Myanmar. Learning English language helps Myanmar people improve their skills and abilities to keep abreast with the international economic affairs (UNESCO, 2010). Thus, teachers are also encouraged to upgrade their teaching skills of English language to accommodate the students’ needs.

In Myanmar, most classroom lessons are teacher-centered. That is, a few decades ago, teachers’ effective questioning and stimulation of critical thinking skills almost disappeared; instead, most students learned through memorization without understanding lessons’ meanings (Soe et al., 2017). Furthermore, many teachers placed very little emphasis on lesson preparation and reflection on their instructional processes (Hayden & Martin, 2013). Myanmar’s National Education Strategic Plan (NESP) 2016–2021 encourages teachers to use innovative instructional strategies to match students’ needs and innovative assessment to evaluate their academic achievement (Ministry of Education, 2015).

Furthermore, most of the researchers in the education field (especially, the teachers and Master/Ph.D. students of Myanmar) emphasized students’ perceptions (Soe, 2015; Ulla, 2017), motivations (Sant, 2018), teaching/learning materials, and some teaching strategies (Naw, 2021). They lacked emphasis on reflection in the teaching context. In one project, Strengthening Pre-service Teacher Education in Myanmar, which was organized by United Nations Educational Scientific and Cultural Organization (UNESCO, 2020), noted that “the

new curriculum in schools is developed by reflection and practice and thus, more support is needed to embed reflection in each lesson – teacher educators have acknowledged that reflection is the first element to go if they do not have enough time for the lesson” (p. 72). In education, many teachers are still confused about the reflective teaching that is ‘*just thinking*’ about the teaching-learning process. In fact, the term, ‘reflective teaching’ is more widespread. They need much more knowledge about reflective teaching.

In English language teaching (ELT), reading is emphasized as the most important skill among listening, speaking, reading, and writing (Rodli & Prastyo, 2017). Reading is also the most fundamental skill for nearly all academic subjects, students’ educational success, and their later careers (Okkinga et al., 2018). In teaching reading comprehension, various studies (Anyindah et al., 2019; Okkinga et al., 2018; Barjesteh & Moghadam, 2014) have shown that different teachers employ various teaching strategies to teach reading comprehension effectively. Studies have been conducted on methods such as reciprocal teaching (Okkinga et al., 2018), interactive teaching (Anyindah et al., 2019), and questioning (Barjesteh & Moghadam, 2014). The results of these studies have concurred that the particular teaching method employed had a significant effect on students’ reading comprehension. However, it is noteworthy that there is no perfect teaching method, and they may have different kinds of weaknesses because “there are many factors that influence how teachers approach their work and which particular strategies they employ to achieve their goals” (Richards & Lockhart, 2007, p. 97). Therefore, Aliakbari and Adibpour (2018) suggested that teachers should consider reflective practices to support their method-centered teaching. Valdez et al. (2018) further asserted that reflective teaching is a *post-method* as the latter encourages teachers to revise and modify their teaching strategies. Furthermore, Mezirow (2006) put forward a transformative learning theory which led the students’ effective learning by reflection. Mezirow exclaimed that not all students’ learning is transformative, and, thus, the students need to reflect on their learning to get the complete understanding. Only such complete understanding is called the transformative learning (Mezirow, 2012). Based on Mezirow’s transformative learning theory, reflective teaching is crucial for all teachers and students for their effective learning.

To sum up, English language teaching is essential in the Myanmar context. However, most Myanmar teachers don’t focus on lesson preparation and their teaching methods are teacher-centered, and most teachers lack training for upgrading their teaching skills. Even though some teachers can use some method-centered teachings (e.g., reciprocal, interactive, and questioning), it is true that different teaching methods have some limitations. These teaching methods cannot be effective in teaching without teachers’ careful reflection (Mezirow, 2012),



and reflective teaching is the most appropriate approach to improve teacher's instruction to help students' effective learning (Valdez et al., 2018). Furthermore, the classroom research about the reading comprehension is also scant in the Myanmar context. These all cases encourage a research problem to develop a reflective teaching procedure for all teachers to qualify their method-centered teachings in teaching reading comprehension, and to promote students' reading comprehension.

### **1.3 Dissertation Organization**

This dissertation is organized by dividing it into seven chapters including this current first chapter. The second chapter is the literature review highlighting two main parts. The first part explains the importance of the English language, its reading process, students' reading comprehension process, and teachers' instructional strategies. Following the essential transformative learning theory and instructional design criteria, a theoretical reflective teaching model for reading comprehension was developed by comparing, synthesizing, and reasoning different kinds of literature in reflective teaching practices and reading comprehension in ELT (Oo & Habók, 2020). The second part is the empirical review of the reflective teaching practices in different fields of education. Different kinds of classroom research are presented, compared and the most appropriate classroom research for this study is deduced (Oo & Habók, 2021a).

The third chapter is about the theoretical framework of the research based on the self-developed reflective teaching model for reading comprehension (RTMRC). It theoretically explains how to conduct the classroom research by focusing on the different stages underpinned in the framework of RTMRC.

The fourth chapter opens by describing the aim of this study, its research questions, and our expectations from this research. These research questions are assumed to be addressed by dividing them into two main parts; pilot study and main study.

The fifth chapter deals with how the research is conducted. Therefore, it shows the research methods such as what research design is going to be used for this study, how the participants are chosen and who they are, what types of instruments are used (Oo et al., 2021) and how its detailed procedures function.

The sixth chapter concerns empirical studies. It is described by the two main parts; pilot study and main study. The pilot study focuses on the validation of the instruments for this research. The content and construct validations were focused on this pilot study. The main study was presented by dividing it into four main parts investigating (1) the effects of

reflection-based reciprocal teaching (RBRT) on reading comprehension (Oo et al., 2021), (2) the effects of reflection-based interactive teaching (RBIT) on reading comprehension, (3) the effects of reflection-based questioning approach (RBQA) on reading comprehension (Oo & Habók, 2021b), and (4) the overall effects of the reflective teaching model for reading comprehension (RTMRC) in Myanmar.

The last chapter seven is concluded by the discussion about how the findings are related to the research hypotheses, the suggestion about the strengths and weaknesses of this research, the recommendation for the future researchers, and a statement on the originality of the research.

## CHAPTER 2

### LITERATURE REVIEW

This chapter has three sessions: *the theoretical perspectives of instructional strategies for reading comprehension, the theoretical development of a reflective teaching model for reading comprehension, and empirical alternatives of reflective teaching practices in different fields of education*. The first session looks at the nature of teaching reading comprehension and instructional reading strategies. And the importance of reflective teaching practices is also presented according to the transformative learning theory to qualify the method-centered teaching strategies. The second session presents how a theoretical reflective teaching model was developed in reading comprehension. And the last session highlights what types of classroom research were conducted about the reflective teaching practices in different fields of studies, and it draws a conclusion into a methodological idea for this current research.

#### **2.1 Conceptualization to Teaching Reading Comprehension**

Reading comprehension is one of the most important skills to be developed and enhanced in language learners (Salari & Hosseini, 2019). And 70% of the information that arrives at the human brain is through the eyes (Durna & Arı, 2016). Manguel's (2015) study even mentions that a text which is seen is kept in mind better than a text which is heard, introducing the idea that *'the keenest sense is eyesight'*. People cannot stand without reading every day, and they have to read the news, messages, notes, books, and other different writings in different ways. Reading is, therefore, very important for the students and they have greater achievement if they have the higher reading ability (Rahim et al., 2017).

Reading cannot be regarded simply as a mechanical, automated process of recognizing certain signs and the meaning of the different words. It is a more complex endeavor, involving interpretation, the attempt to reveal the communicative function of the text, namely the intention of the writer (Kovács, 2018). Reading can be defined as a process of meaning-construction based on the reading context (Kim et al., 2016), and also the process of receiving and interpreting information encoded in language form via the medium of print (Rahimi & Sadeghi, 2014). Furthermore, reading literacy is an essential skill for everyone's real-life situations, and it is also a process of understanding, using, evaluating, and engaging with text for helping the individuals to achieve their goals, to develop their knowledge and potential enough to participate in a successful society (Habók & Magyar, 2019). Therefore, reading comprehension skill is considered as one of the major skills providing students a huge amount of information (Salehi & Vafakhah, 2013).

Reading comprehension is the mental process the reader goes through in an effort to understand the content of a reading text (Suyitno, 2017a). Grabe and Stoller (2002) simply define reading comprehension as the ability to draw meaning from the printed page and interpret this information appropriately. To get successful comprehension, the students have to fit their new learning from the text with their background knowledge, and they have to use the flexible reading strategies for fostering, monitoring, and maintaining comprehension (Alfassi et al., 2009).

Different students come to school from their different backgrounds in families, experiences, and skills of reading comprehension so that the teachers have to struggle to meet these differences of their backgrounds (Ankrum & Bean, 2008). And, LoCasto (2000) also recommends language teachers not only to take care of the language teaching strategies but also to know the gender differences in language learning. Some studies (Abdi & Asadi, 2015; Larsen-Freeman & Long, 2000; Saville-Troike, 2006) point out that schoolgirls are superior to schoolboys in some aspects of language learning such as reading, language interpretation, and pronunciation. However, schoolboys are more outstanding than schoolgirls in listening skills and grammar knowledge in reading (Zafar & Meenakshi, 2015). In any way, these gender differences should also be considered in teaching the students reading comprehension skills. Apart from the gender differences, different learning contexts (e.g., school, city, country) are the affecting factors on students' language learning achievement (Hu & Liu, 2020). Zhao et al. (2012) also put forward that different teaching-learning situations can create the students' different achievement in reading comprehension.

In fact, students' understanding of the reading depends on their background reading experience, sensory and perceptual skills, ability to think, knowledge about the word strategies, reading goals, observations on the reading, the importance of reading to themselves, and the availability of facilities (Suwanto, 2014). Furthermore, reading comprehension cannot be separated from the students' learning interests, and their learning cannot be effective without their interests in the reading text.

Therefore, reading comprehension is an interactive process between the individuals and their reading text, and, thus, it is not beneficial for the students with the poor reading ability (Lim et al., 2018), and it is also a complicated process as it covers interrelated physical and cognitive attributes (ARI, 2017). Accordingly, for the students, deep comprehension requires more than mere interpretation of single words, phrases, and sentences and needs their conscious attempts to gather related information from the text and synthesize them into the global meaning of the whole text (Rahimi & Sadeghi, 2014).

Therefore, teaching reading comprehension is of great importance for teachers to help students' complete understanding of the reading text. Egiyantinah et al. (2018) also highlighted the teaching technique as one of the most important factors which determine the success or the failure of students' reading comprehension process. In teaching reading comprehension, it is a complex interaction between a teacher's instructional strategy, setting, readers' background, readers themselves, task, and the reading text itself (Yukselir, 2014). It is also an interactive instructional context involving five factors such as strategy, reader, task, text, and context (Suwanto, 2014). Therefore, the teachers, who teach the reading text to the students, should choose the most appropriate instructional reading strategies to meet their students' needs.

## **2.2 Instructional Strategies for Teaching Reading Comprehension**

In teaching reading comprehension, different teachers use different teaching strategies to accommodate their students' needs. Cognitive strategy deals with how to learn, how to remember, and how to convey ideas reflexively and analytically (Suyitno, 2017b). Cognitive strategies include making predictions, translating, summarizing, and linking with prior knowledge or experience, and applying grammar rules, and guessing meaning from contexts (Krawec & Montague, 2012). Therefore, in teaching reading comprehension, some teachers use cognitive teaching strategies such as reciprocal teaching (Ozek & Civelek, 2006), interactive teaching strategy (Ozek & Civelek, 2006), and cognitive academic language learning strategy (Lawrence, 2007).

As for the case of meta-cognitive strategies, they are related to self-management or self-regulation in a given reading activity, and they are also encouraging the students to 'think about thinking' what they read (Boulware-Gooden et al., 2007). Meta-cognitive strategies include planning and monitoring strategies (Zhang & Guo, 2020). Therefore, in teaching reading comprehension, some teachers use instructional metacognitive reading strategies such as questioning strategy, think-aloud strategy, and self-regulating strategy (Channa et al., 2014).

Among the cognitive teaching strategies, reciprocal teaching is the most appropriate with the informational texts and narrative texts in reading (Rahimi & Sadeghi, 2014). And interactive teaching is also the hybrid approach of bottom-up and top-down strategies (Khaki, 2014). English reading texts prescribed at the upper secondary school levels in Myanmar are informational and narrative texts. And the Myanmar teachers and students are also familiar with the traditional teaching methods based on bottom-up strategy. Therefore, reciprocal teaching and interactive teaching are appropriate in the Myanmar context. Furthermore, among the meta-cognitive strategies, questioning is a very useful strategy that every teacher is

currently using in their instructional processes. Since more than 2000 years ago, teachers have used the questioning strategy for different purposes (Corley & Rauscher, 2013).

Therefore, in this study, two cognitive instructional reading strategies (reciprocal teaching strategy and interactive teaching strategy) and one meta-cognitive instructional reading strategy (questioning strategy) were discussed as follows.

### ***2.2.1 Reciprocal Teaching***

Reciprocal teaching, which was elaborated by Palincsar and Brown (1984), is an instructional reading strategy based on the four reciprocal dialogues of predicting, questioning, clarifying, and summarizing so as to enhance students' reading comprehension skills (cited in Rodli & Prastyo, 2017). It is also an instructional procedure to enhance students' reading comprehension which its procedure assigns students to increase their comprehension, vocabulary knowledge, to use their prior knowledge, and share their ideas (Lestari, 2016). In the general methodology of reciprocal teaching, it is not only about students' discussions in small groups but also the teacher should model for students how to form a group, how to participate in a group, what to do, and how to take different roles in the learning process (Ostovar-Namaghi & Shahhosseini, 2011). We discussed students' roles in the reciprocal teaching approach, which are questioning, clarifying, summarizing, and predicting. These four roles of questioning, clarifying, summarizing, and predicting are reciprocally performed by the students within the groups.

***Questioning:*** the term 'questioning' means identifying the keywords or main information, ideas, and themes from the text, and creating questions based on the student's own words. These questions should not merely ask about the unknown words but also construct a good foundation for understanding the whole text (Rodli & Prastyo, 2017). Concerning the group work with four members, the role of the questioner is to ask the questions which encourage a full understanding of the text, allow the group to analyze the text, help the group to evaluate the text, and find out the possible questions from the text (Lestari, 2016).

***Clarifying:*** It is a process of understanding unknown words, answering questions arising from the difficulties of comprehending the text, and clarifying the meaning of the text. This step is important for all students. If the meaning is clear, students will understand the whole text, and this will support other steps such as summarizing and predicting. Therefore, Stricklin (2011) also suggested that students use extra tools (e.g., dictionaries or a thesaurus) as part of this process. In the work of the group with four members, the clarifier's role is for helping the group

to identify confusing words, sentences, and ideas, encouraging the group to reach a shared understanding of the text and trying to ensure that all students in their group understand everything in the text (Lestari, 2016).

**Summarizing:** The step of summarizing involves identifying key ideas or information from the text and organizing this information into a meaningful statement in the students' own words. This summarized statement should cover the essential parts of a paragraph or text. According to Williams (2010), students should select these ideas from the text and write the main ideas in their book or on a worksheet using their own words. Regarding the group work with four members, the role of the summarizer is to help the group in identifying the most important idea in the text and then restating or retelling the text by using his/her own words (Lestari, 2016).

**Predicting:** The last step, predicting, is the process in which students compare their prior knowledge about the text to the new information they obtain from the text. After making a comparison between the old and the new knowledge, they then create future statements. This step, 'prediction', refers to students' ideas in the form of statements regarding upcoming events (Doolittle et al., 2006). The role of the predictor within the group work with four members is to help the group to predict what the text is about, to help the group in finding out the answer from the question (Lestari, 2016).

If necessary, the teacher provides further feedback to student groups to facilitate the students' effective and interactive participation in the reading comprehension process (Ghorbani et al., 2013).

### **2.2.2 Interactive Teaching**

Interactive teaching may be defined as "a hybrid model that harnesses the comparative advantages of the bottom-up and top-down approaches, in order to facilitate the reading process by encouraging readers to interact with texts so as to extract the meaning of written language or symbols" (Anyiendah et al., 2019, p. 126). Baker and Boonkit (2004) further noted that reading is an interactive, top-down, and bottom-up process. They added that students acquire knowledge from texts by the interaction (interactive approach) between identifying meanings based on grammatical knowledge about words, phrases, clauses, sentence syntax, and texts in detail (bottom-up approach) (Ardhani, 2016) and gleaning meanings by integrating their background schema of the texts they read and their reading knowledge given in texts (top-down approach) (Birch, 2002). To comprehend a text, readers make use of both the text (based on bottom-up) and their background knowledge (based on top-down). Therefore, the

interaction of the background knowledge and the text is essential for efficient reading (Ozek & Civelek, 2006). Readers, with the help of top-down and bottom-up strategies, use pre-reading information to make some predictions about the text. Khaki (2014) further asserted that the most optimal approach that teachers can employ is by emphasizing the interactive teaching approach (interaction between bottom-up and top-down) to ensure students' reading comprehension achievement is effective by applying various teaching aids to stimulate and integrate their background schema into the reading text. To stimulate students' background schema, Anyiendah et al. (2019) proposed the following three techniques: carousel brainstorming, pre-teaching vocabulary, and K-W-L technique.

***Carousel brainstorming:*** Carousel brainstorming strategy begins by generating a number of questions for the topic of study and writing each question on a separate piece of poster board or chart paper; then the teacher divides the students into groups of five or less who will rotate around the room during this activity; after that, the teacher also directs each group to stand in front of a question station. As the next step, the teacher gives each group a colored marker for writing their ideas at the question stations; and then informs groups that have minutes to brainstorm and write ideas at each question station in order to discuss, recall, and relate to the new learning (Andriani, 2019).

***Pre-teaching vocabulary:*** This is an essential strategy for activating learners' background knowledge by enabling them to understand the meaning of new and/or difficult words used in text passages. The strategy entails guiding learners in exploring the meaning of such words prior to encountering the same when reading passages. The strategy is known to activate and increase background knowledge, as well as aid learners to connect text passages and their cumulative knowledge about the subject at hand (Anyiendah et al., 2019; Jenkins et al., 2013; Sadoski & Willson, 2006).

***K-W-L:*** The technique is the acronym of three steps; what they *Know*, what they *Want* to know, and what they have *Learned*. As the first step, the teacher determines what the students know (K), the previous knowledge needed for the new knowledge from the reading text. And in the second step, the teacher writes the instructional objectives of the lesson or determines what they want to know (W). And the teacher teaches the students the reading text. Third, the students should be asked some questions about what they need to know or what they have learned (L), and the students should also evaluate what they know and understand (Alsoudi, 2017).



### ***2.2.3 Questioning Strategy***

Questioning, which originated from Socrates more than 2,000 years ago, is a teacher's questioning strategy that is based on the Initiate-Response-Evaluate (IRE) model in which the teacher first asks (initiates) the students' questions related to the text, the students answer (response) the teacher's question, and the teacher assesses (evaluates) the students' responses or gives them feedback so as to enhance their reading comprehension (Corley & Rauscher, 2013). Questioning is also the teacher's instructional strategy for stimulating students' curiosity and maintaining their interest by encouraging them to think and focus on the content of the lesson, helping the teacher to clarify students' confusion, to elicit particular structures and vocabulary items, giving the opportunity to the teacher check what the students understand, and supporting the students' participation in learning (Yuliawati et al., 2016). Using a questioning strategy is encouraging the teachers to plant the seeds of critical thoughts in students' minds (Acim, 2018). However, the teacher should take care of question complexity and enough wait time for students' answers (Barrett et al., 2017).

Guihua (2006) suggested some guidelines to improve teacher's questioning skills. Teacher need to (1) be clear in his/her own mind about the question (i.e., what does he/she want from the students), (2) state the question first before asking the specific student so that all students can take part in answering or think about the answer of the question, (3) have the wait time (i.e., the teacher should give enough time to students to think about the answer), (4) be sure to ask one question at a time (i.e., asking many questions continuously makes the students more confused), and (5) ask the questions from easy to difficult enough for the students to actively participate in their learning. To help students' critical thoughts, the teacher's questioning should be clear, precise, relevant, accurate, and deep enough (Elder & Paul, 2007).

If teachers cannot formulate good questions, this questioning strategy may lead to students only acquiring factual knowledge. Therefore, teachers should ask higher-order questions to help students think on a deeper level (Peterson & Taylor, 2012). Reeves (2012) recommended Barrett's taxonomy of reading comprehension questions for language teachers (Table 2.1) by distinguishing five levels of questions, namely, literal, reorganizational, inferential, evaluative, and appreciative.

**Table 2.1***Barrett's Taxonomy of Reading Comprehension Levels*

Level	Reading comprehension question-levels	Call for students' skills	Example questions
1	<p><b>Literal</b> (Recognition or recall of)</p> <ul style="list-style-type: none"> <li>- details</li> <li>- main ideas</li> <li>- a sequence</li> <li>- comparison</li> <li>- cause and effect relationships</li> <li>- character traits</li> </ul>	To locate or identify any kind of explicitly stated fact or detail (for example, names of characters or, places, likeness, and differences, reasons for actions) in a reading text	<ul style="list-style-type: none"> <li>- Name the -----.</li> <li>- List the -----.</li> <li>- Identify the -----.</li> <li>- Describe the -----.</li> <li>- Compare the two ----.</li> <li>- Relate the -----.</li> </ul>
2	<p><b>Reorganizational</b></p> <ul style="list-style-type: none"> <li>- classifying</li> <li>- outlining</li> <li>- summarizing</li> <li>- synthesizing</li> </ul>	To organize, sort into categories, paraphrase or consolidate explicitly stated information or ideas in a reading text	<ul style="list-style-type: none"> <li>- Summarize the main ideas --.</li> <li>- State the differences ----.</li> <li>- Describe the similarities...</li> <li>- Classify the same -----.</li> <li>- Outline the key -----.</li> </ul>
3	<p><b>Inferential</b></p> <ul style="list-style-type: none"> <li>- main ideas</li> <li>- supporting details</li> <li>- sequence</li> <li>- comparisons</li> <li>- cause and effect relationships</li> <li>- character traits</li> <li>- predicting outcomes</li> <li>- interpreting figurative language</li> </ul>	To use conjecture, personal intuition, experience, background knowledge, or clues in a reading text as a basis of forming hypotheses and inferring details or ideas (for example, the significance of a theme, the motivation or nature of a character) which are not explicitly stated in the reading text/material	<ul style="list-style-type: none"> <li>- Explain the main idea ----.</li> <li>- What is the writer's intention ----?</li> <li>- What do you think ---?</li> <li>- What will be -----?</li> <li>- What will happen -----?</li> <li>- Why has it occurred when -----?</li> <li>- Why did you decide ----?</li> </ul>
4	<p><b>Evaluative</b> (Judgement of)</p> <ul style="list-style-type: none"> <li>- reality or fantasy</li> <li>- fact or opinion</li> <li>- adequacy or validity</li> <li>- appropriateness</li> <li>- worth, desirability, and acceptability</li> </ul>	To make an evaluative judgement (for example, on qualities of accuracy, acceptability, desirability, worth or probability) by comparing information or ideas presented in a reading text using external criteria provided (by other sources/authorities) or internal criteria (students' own values, experiences, or	<ul style="list-style-type: none"> <li>- Describe your opinion in detail ----.</li> <li>- Do you think that ----?</li> <li>- Discuss critically -----.</li> <li>- Why do you think so ---?</li> <li>- How important is this ----?</li> <li>- What is the moral of the story ----?</li> <li>- How is it appropriate with -----?</li> <li>- Why is this purposeful ----?</li> </ul>

	background knowledge of subject)	
<b>5</b>	<p><b>Appreciative</b></p> <ul style="list-style-type: none"> <li>-Emotional response to content</li> <li>-Identification with characters</li> <li>-Reactions to author's language use</li> <li>-Imagery</li> </ul>	<p>To show emotional and aesthetic/literary sensitivity to the reading text and show a reaction to the worth of its psychological and artistic elements (including literary techniques, forms, styles, and</p> <ul style="list-style-type: none"> <li>- Discuss your response -----.</li> <li>- Comment on the writer's use of language -----.</li> <li>- What impression did you get about -----?</li> <li>- Do you like this ----? Why?</li> </ul>

*Note.* Adapted from Reeves (2012, p. 36)

### 2.3 Transformative Learning Theory

In education, most kinds of learning fundamentally stem from the traditional theories of behaviorist, cognitivist, and constructivist theories (Şahin & Doğantay, 2018). In behaviorist theory, the student learns the new information or behaviors by associating the stimuli with the response (Nussbaum, 2019). In cognitivist theory, the student learns the new information and remembers what has been learned based on the cognitive process or information process in his/her mind (Çeliköz et al., 2016). From a constructivist point of view, the individual constructs new knowledge or information based on their prior knowledge (Şahin & Doğantay, 2018). In the case of the above three teaching strategies, they all are based on the traditional learning theories; i.e., the behaviors of stimulus and response in three strategies (predicting, questioning, clarifying, and summarizing in reciprocal teaching; interactive process between top-down and bottom-up approaches in interactive teaching; and interactive discussion between teacher's questions and students' response in questioning strategy) are all based on the students' stimuli and behavioral responses, their cognitive functions, and constructive processes based on their prior knowledge. Therefore, it is certain that these three theories are supporting the above three instructional reading strategies to help students' reading comprehension progress.

Apart from these three traditional theories, Mezirow (1996) asserted the importance of transformative learning theory for students' effective learning. Mezirow specialized in sociology and adult education. He postulated his transformative learning theory in the 1970s. Later, his theory was validated with a detailed explanation about the individuals' understanding, confirming and reforming the meaning of what they learn or experience (Şahin & Doğantay, 2018). The transformation concept has been considered the most radical and

complete form of change, and the most important in the modern thinking process. The idea of transformation is different from other forms of change, and it is really “a change of” not merely “a change in” (Lange, 2013, p. 91). The word ‘transformation’ is a combination of two meaningful words; ‘trans’ which means ‘to go across’ indicates that there is a dynamic force in the process of change, and ‘formation’ which is based on the root *formus* or *Morpheus* meaning ‘morphing’ or ‘taking a new shape’ (Mayo, 1999). Therefore, the meaning of ‘transformation’ is the fundamental structured change (systematic and meaningful change), not merely a change in physical appearance or developmental evolution. This concept of transformation is one significant part of modernist ideas relating to liberation, freedom, and emancipation for all individuals and societies. These modernist ideas include “progress, rationalism, cause-effect analysis, managerialism, re-constructability, interventionism, universalism, instrumentalism, autonomous individualism, utopianism, and anthropocentrism” (Lange, 2013, p. 91). Therefore, the transformative theory is crucial for the teaching-learning process in any field of education.

According to transformative theory, the learner is centered in the instructional process, and the teacher helps every student to make effective learning based on their capacity or inner power (McGregor, 2008). Thus, Madsen and Cook (2010) stated that not all learning is transformative, not all schools educate, and possessing information does imply an understanding thereof. Rather, transformative learning facilitates individuals’ effective understanding as it enables in-depth reflection and critical consciousness (Mezirow, 2012). The purpose of transformative learning theory is to assist individuals to reflect on the actual events in which they are participating and transform them so they are more effective if necessary (Christie et al., 2015). Critical reflection is an essential component in transformative learning theory (Taylor, 2007). Mezirow (2006) noted that transformative learning theory has three core components. First, the mental construction of experiences enables students to construct learning in their minds. Second, critical reflection emphasizes that effective learning does not come from all positive experiences but rather from effective reflection, thus enabling students to reflect effectively on what they have learned and/or experienced. Finally, development/action is imperative for true transformation because it is vital that learners try out their new knowledge and skills. Therefore, the transformative learning theory (apart from the above traditional learning theories) is of great importance for qualifying the above three instructional strategies to help students’ effective learning in reading comprehension.

## **2.4 Importance of Reflective Practices in Teaching Reading Comprehension**

Today, ‘reflective practice’ has become a widely used term in professional teacher training. The concept has been around for more than 50 years. In one study, Pacheco (2014) stated that John Dewey first used reflective practice in 1909 by saying the moral individual would shape his actions practically and reflect upon their consequences. However, many educators are misunderstanding reflection believing that ‘thinking’ about the teaching-learning process is ‘reflecting’. To understand reflective practices more clearly, Paterson and Chapman (2013) presented a clear explanation of the reflective practice. They highlighted that reflection is not just looking back at past actions, but “to work out what is already known and add new information with the result of drawing out knowledge, new meaning and a higher level of understanding” (p. 133). Actually, reflective teaching is a kind of teaching approach that can encourage teachers to improve their teaching skills by engaging in critical reflection on their teaching-learning process (Ashraf & Zolfaghari, 2018). Without regular reflective practice on instructional context, the teacher cannot understand how effective his/her teaching is for encouraging, motivating, and evaluating students or how the students’ emotions, lives, and directions are shaped, or how their activities and reading text are related to their learning efforts (Çimer et al., 2013).

Reflective teaching can help teachers take care of their instruction so that they can look at their instructional behaviors objectively, not only during the instructional process but also during processes before and after the instruction. By taking care of their actions and students’ responses, reflective teachers can continually improve their instruction. According to Richards (2015, p. 1), “reflection or critical reflection refers to an activity or process in which an experience is recalled, considered, and evaluated, usually in a broader purpose.” It is also a process of re-planning and acting again based on the conscious recall and examination of past events. Moreover, Soni (2012) noted that “higher-level understanding is through reflection and informal learning” (p. 5). Thus, reflective practice is beneficial for both pre-service and in-service teachers. Because the effort to engage in reflective teaching can give more advantages than disadvantages, most educational training programs encourage reflective practices in both pre-service and in-service training.

Reading comprehension is regarded as the crucial skill for students’ success in academic learning because the school success depends on their knowledge of how to read, understanding what they have read, and applying that reading knowledge to their further learning (Mannong, 2018). Various studies have shown that different teachers employ various teaching strategies

to teach reading comprehension effectively. The students' effective understanding also depends on their learning styles, activities, and the difficulty level of the text (Li & Chun, 2012). Therefore, Aliakbari and Adibpour (2018) suggested that teachers should consider reflective practices to help the students' learning. Accordingly, the great need for the teachers is to know what the nature of reflective teaching is and its aspects in reflection, how to create the reflective teaching, and what factors to be focused for reflecting while teaching reading comprehension. Therefore, we developed a theoretical reflective teaching model for reading comprehension and confirmed its appropriateness in teaching reading comprehension by some experts.

## **2.5 Theoretical Development of a Reflective Teaching Model for Reading Comprehension**

### ***2.5.1 Conceptual Components to the Reflective Teaching Process***

As previously noted, reflection and reflective teaching are interpreted in a broad sense. A study by Ashwin et al. (2015, p. 266) described reflective teaching using Dewey's ideas, according to which "reflection is the active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion which it tends". They also pointed out the key component of reflective teaching, namely, systematic re-evaluation of the teaching experience when necessary to change teaching practices. Spalding and Wilson (2002) defined reflective teaching as "an activity or process in which an experience is recalled, considered, and evaluated, usually about a broader purpose" (Spalding & Wilson 2002, p. 1394).

Implementing reflective practices is based on both present and past teaching activities. To underline this fact, Donald Schön's study (1983) indicated two kinds of reflective practices, reflection-on-action, and reflection-in-action. Reflection-on-action means carefully re-thinking previous teaching and learning activities. The emphasis is on evaluating one's own strengths and weaknesses to develop more effective approaches in a situation. Reflection-in-action involves monitoring and assessing one's own and others' behaviour in teaching and learning events (cited in Edwards, 2017).

Cirocki and Farrelly (2016), in turn, also established the nature of reflective teaching and distinguished between three types of reflection such as content reflection (what), process reflection (how), and premise reflection (why). Furthermore, Senge (1990, cited in Taggart & Wilson, 2005) identified three types of reflection: (1) technical reflection, (2) practical reflection, and (3) critical reflection. Technical reflection in education includes a reflection on teaching strategies, techniques, and skills. This type is related to Schön's reflection-on-action

types and focuses on the questions the teacher asks: What did I implement? How can I teach more effectively? Practical reflection highlights concentration on professional practice, what it means, and why it is important. Critical reflection unites the previous two levels of reflection. In addition, it contains a reflection on the teaching context in the broadest sense, including political, financial, and ethical factors.

In some studies (Graves, 2002; Fatemipour, 2013), a reflection is a significant tool for teachers. It helps to explore, understand, and reconsider their teaching practice. Reflection means not only seeing and recognizing, but also understanding teaching and learning processes. Brookfield (2017) indicated in his study that the meaning of reflective teaching combines a wide range of practices, such as teaching inventories, observation checklists, self-evaluation scales, and students' evaluation tools. From the perspective of the reflective teaching process, he pointed out four sources that can be used by teachers for an effective reflective teaching process. The teachers can decide if they will use one or more of the sources. These are students' views, teacher colleagues' perceptions, personal experiences, and/or theoretical research.

Richards and Lockhart (2007, p. 4) noted that reflective teaching denotes a process which generally describes how the teacher teaches in the classroom and what kinds of methods they apply; they viewed as "the ongoing process and a routine part of teaching, it enables teachers to feel more confident in trying different options and assessing their effects on teaching". They also indicated that it is a cyclical process in which the teacher moves from one teaching stage to the next to fully grasp how they matter in the classroom situation. Additionally, they introduced reflective teaching as an action plan which comprises the following components: planning, action, observation, and reflection. Richards and Lockhart (2007) clearly stated that "their book does not set out to tell teachers what effective teaching is, but rather tries to develop a critically reflective approach to teaching, which can be used with any teaching method or approach" (Richards & Lockhart, 2007, p. 3). According to them, therefore, reflective teaching can be applied together with several teaching methods and strategies to support students' learning.

Hulsman et al. (2009) also regarded reflective teaching as the cyclical process of acting, observing, analyzing, presenting, and feedback. In their research on medical students, they used this cyclical structure with the observational approach. Babaei and Abednia (2016) examined the connection between reflective teaching and English language teachers' self-efficacy beliefs. In their reflective teaching process, they agreed with Calderhead (1989, p. 43) that "reflective teaching involves critical inquiry, analysis, and self-directed evaluation".

Other researchers, such as Dewey (1933) and Schön (1983), also explored a cyclical

structure of reflective thinking. In their conception, the first stage is to identify a problem. The next stage is to go back to the root of the problem and examine it from the perspective of a third person. Based on this step, the decision can be made if the problem needs to be changed. In this stage, the following activities are required: observation, reflection, data collection, and consideration of moral principles. The next stage is evaluation, which refers to a review of the implementation of the process, its consequences, and outputs. The next stage in the cyclical structure can be acceptance or rejection of the final solution (Taggart & Wilson, 2005).

Quite a few years ago, Kolb (1984, cited in Dennison, 2009) also carried out an experiment in teaching with his model of reflective teaching and confirmed the cyclical structure of learning and teaching. He identified four main parts of the reflective teaching process: (1) experience that was gained in the past or the present; (2) observation, which records what happened during the teaching event; (3) reflection, which involves defining, analyzing, and concluding; and (4) planning, which makes it possible to make plans for further action.

In one distinct study, Pollard et al. (2014) mentioned that reflective teaching is a cyclical process where teachers monitor, evaluate, and revise their teaching practice continuously. In line with this view, reflective teaching can also be defined as “a systematic self-evaluation cycle conducted by teachers toward their teaching through an open discussion with colleagues or written analysis. Since it is a cyclical process, the teachers should monitor, reflect, evaluate and revise their practice constantly to meet the high standard of teaching” (Ratminingsih et al., 2017, p. 170).

Reflective teaching is defined by Farrell (2007) and Garzon (2018, p. 75) as “the process of teachers’ consciously subjecting their beliefs about teaching and learning to critical analysis, assuming their responsibility in the classroom, and engaging in a process of improving teaching practices”. Kennedy-Clark et al. (2018) also emphasized the role of observation, engagement, and beliefs. According to their theory, “reflective practice is a process of learning that occurs through observation and engaging in discussion of practice so that questions about tacit beliefs and pedagogical practices could be examined” (Kennedy-Clark et al., 2018, p. 43). Apart from those researchers, Clarke (2008) based on earlier studies also conducted observational research in mathematics in the southern United States. In his conception of the reflective teaching process in the field of mathematical problem solving, he used three phases, understanding, planning, and looking back, which refer to a circular process.



### ***Reasoning one: Distinctions from the above studies of the components of reflective teaching***

Based on the above studies, two main points can be highlighted: *the nature of reflective teaching* and *the reflective teaching process*. In *the nature of reflective teaching*, several key components can be identified:

- Reflective teaching is taking a conscious look at actions with emotions and enthusiasm to achieve higher-level understanding. For this definition of reflective teaching, some researchers (Ashwin et al., 2015; Edwards, 2017; Fatemipour, 2013; Graves, 2002; Spalding & Wilson, 2002) applied the word, ‘reflection’ in different ways; a conscious look, persistent and careful consideration, systematic re-evaluation, recalled and considered, rethinking, monitoring, and reconsider.
- Reflective teaching is based on both present and past events for effective learning. These studies (Edwards, 2017; Taggart & Wilson, 2005) used this nature of ‘reflection on present and past events’ in different ways; reflection-on-action and reflection-in-action, and identify a problem and go back to the root.
- Reflective teaching is a cyclical process. Some researchers (Clarke, 2008; Dennison, 2009; Dewey, 1933; Hulsman et al., 2009; Kolb, 1984; Pollard et al., 2014; Ratminingsih et al., 2017; Richards & Lockhart, 2007; Schön, 1983; Taggart & Wilson, 2005) applied the term, ‘cyclical process’ in different ways; ongoing process and routine work, cyclical structure, systematic self-evaluation cycle, and circular process.
- In reflective teaching, various teaching methods and strategies can be applied and examined to help students learn more effectively (Kennedy-Clark et al., 2018; Richards & Lockhart, 2007).

In the case of the *reflective teaching process*, various researchers (mentioned above) have put forward different approaches to the reflective teaching process. However, these approaches have common objectives in that they are designed to re-evaluate teaching experiences systematically to change teaching practices. It is also clear that these researchers had different approaches to their different fields. Among their approaches, there are four common components: planning (consideration and thinking), acting (experience, practices, response, involvement in a scenario, and learning), reflecting (observation, review, recollection, documenting what happened, and recording the scenario), and evaluating (determination, interpretation, and assessment). These four components are more common than other stages of the reflective teaching process. These factors are presented in Table 2.2 in a comparison of the different researchers’ reflective teaching stages.

**Table 2.2***Comparison of Various Authors' Reflective Teaching Stages in the Reflective Teaching Process*

Authors	Reflective teaching process					
	Planning	Acting	Reflection	Analysis	Evaluation	Feedback
Taggart & Wilson (2005)	✓		✓		✓	
Richards & Lockhart (2005)	✓	✓	✓		✓	
Clarke (2008)	✓		✓			✓
Dennison (2009)	✓	✓	✓			
Hulsman et al. (2009)			✓	✓		✓
Pollard et al. (2014)	✓	✓	✓	✓	✓	
Babaei & Abednia (2016)			✓	✓	✓	
Garzon (2018)	✓	✓	✓	✓	✓	✓
Kennedy-Clark et al. (2018)		✓	✓	✓	✓	
Ratminingsih et al. (2017)	✓	✓	✓		✓	✓

**2.5.2 Conceptual Components to the Reading Comprehension Process**

In this part, certain studies are highlighted to present the theoretical background to the conceptual alternatives to the reading comprehension process. Various authors have pointed out that reading comprehension is a complex process during which readers use a number of mental processes, such as reading words, creating meanings, organizing the text, and applying strategies (Habók & Magyar, 2018; Käsper et al., 2018; Rastegar et al., 2017). Kusumawati and Widiati (2017, p. 175) noted that “comprehension is a bridge between the known and the unknown”. They also emphasized that comprehension is something that humans do from the early years. In an effort to comprehend information, they stated that the reader must relate his/her new information to his/her prior knowledge. Connors-Tadros (2014, p. 2) pointed out that “reading is an active and complex process that involves: (a) understanding written text, (b) developing and interpreting meaning, and (c) using meaning as appropriate to the type of text, purpose, and situation”. Additionally, Gilbert (2017, p. 181) claimed that “reading in both first and second language context includes the reader, the text, and the interaction between the

reader and the text”. Reading comprehension is also defined by Lim et al. (2018, p. 146) as “a cognitive process that takes place when an individual interacts with the text”.

According to Nordin et al. (2013, p. 469) “comprehending a text is an interactive process between the readers’ background knowledge and the text itself”. They divided this process into two parts: (1) the bottom-up approach to reading and (2) the top-down approach to reading. Baker and Boonkit (2004) observed that reading is also a process of bottom-up, top-down, and interactive approaches. To understand these three processes, Khaki (2014, p. 187) also identified three approaches to teaching these processes in the interaction approach; according to him, the students choose, based on the situation, which process (bottom-up or top-down) is more appropriate for them. For example, if the reader has background knowledge of the text, the top-down approach is more appropriate; however, if he/she does not have sufficient background knowledge, the bottom-up approach is more beneficial; the interaction approach is the most common in the language teaching classes if there are both types of readers (who have sufficient background knowledge, and who do not have such kind of knowledge) in the class.

Heilman et al. (1986, cited in Suwanto, 2014) identified three levels of reading comprehension for English language teachers providing instruction on reading comprehension; (1) literal, (2) interpretative, and (3) critical comprehension. Literal comprehension highlights that a reader explicitly understands the key information in the text. Interpretative comprehension means that the reader can analyze and evaluate the text, and can personally react to ideas in the text. Critical comprehension requires that the reader can react critically to text information and form his/her own opinion of it. These three levels are of great importance for students’ reading comprehension and the evaluation of students’ achievement.

Apart from these definitions of and approaches to reading comprehension, reading events can also be considered. Widdowson (2015) described which factors affecting a reading event can influence reading comprehension. These include the reader’s background and prior knowledge, quality of reading materials, and type of teacher and text instructions. According to Yang (2016), the factors which affect strategies for developing reading comprehension can be divided into two dimensions: situational and individual. The situational dimension includes classroom settings, teaching methods, and reading texts. The individual dimension can be influenced by readers’ age, motivation, learning strategies and style, personal circumstances, and certain other latent factors.

Fitrisial et al. (2015, p. 17) also listed “the individual, task, and strategy as factors that influence reading events.” They noted that ‘person’ means the reader whose general

knowledge, age, aptitude, and learning strategies and styles are included in the learning process. 'Task' indicates all kinds of activities in which the reader must engage during the teaching session. Finally, 'strategy' involves an awareness of strategy use to interpret the text, e.g. how to select key information and main ideas, and how to predict the message of the text.

In his study, Staden (2010) also pointed out that there are only three main events affecting students' reading comprehension process. (1) Learner factors involve learner motivation, needs, opinions, values, relationships to peers, etc. (2) Home factors refer to parents' education, social relations, socio-economic status, etc. (3) School factors indicate teachers' characteristics, the structure of the education system, school facilities, etc.

Huang (2013, p. 151) identified certain factors that motivate students' reading as follows: "cultural values, instructional methods, and structures in the school environment." Snow (2003) also characterized reading comprehension as an interactive process of deducing and constructing meaning from the text. This process involves three components: first, the reader who is reading and is involved in the comprehension process; second, the text that had to be processed and comprehended; and, third, the activity in which the reader is engaged during the comprehension process. These three significant components of reading comprehension proceed within a social context.

Zhang (2016, p. 132) also identified three variables, which influence reading and reading success. These are "(1) text characteristics; (2) reader/viewer characteristics; and (3) social context". Another study (Walker, 2008) also indicated that there are five factors of the reading event, which must be taken into consideration during teaching. These are text, reader, task, teaching technique, and teaching context. These factors do not act separately but affect one another in teaching and learning. Walker (2008) also emphasized the notion of the 'context' in which environment the teaching has been implemented. Its role cannot be analyzed separately, since it is closely related to other factors, such as text, reader, task, teaching techniques, and context. Then, Suwanto (2014) also stated that a reader's understanding of the text depends on his/her prior knowledge, skills, thinking ability, strategies, observations, the readiness of facilities, and the text objective. In addition, Suwanto (2014) stressed that understanding only depends on readers' socio-cultural background.

Zhang and Zhang (2013, p. 37) indicated that "reading is a constructive process in which the text, the reader, and the context interact". In this process of interaction, the reader can reconstruct the information in the text based on his/her ability to decode and working memory based on his/her schemata. Thus, both the reader and the text can be considered as the main parts of the teaching-learning context.

### ***Reasoning two: Distinction from the above studies of the reading comprehension process***

To conclude these research findings on the reading comprehension process, some concepts can be highlighted in two main categories: *reading comprehension*, and *factors affecting reading events*.

Overall, two important perspectives on *reading comprehension* can be identified as follows.

- Reading comprehension is an interactive process between the reader and the text. Gilbert (2017), Lim et al. (2018), Nordin et al. (2013) described this interactive process in different ways; interaction between the reader and the text, individuals interact with the text and interactive process between the reader's background knowledge and the text itself.
- Reading comprehension is the relationship between known and unknown information. In some studies (Khaki, 2014; Kusumawati & Widiati, 2017; Snow, 2003; Suwanto, 2014), this type of relation was showed into different ways; interactive process of deducing and constructing meaning from the text, interaction approach between top-down and bottom-up, and understanding only depends on readers' socio-cultural background.

Some common key components emerge from among *the factors affecting the reading event* described by various researchers. Although it is difficult to count all the factors affecting students' reading comprehension, the most common factors that can be reflected by teachers during instruction are strategy, text, task, reader, and context. In the case of context, some authors, such as Snow (2003), Staden (2010), Suwanto (2014), Yang (2016), and Zhang (2016), describe 'context' as a kind of readers' socio-cultural context. However, other authors, such as Walker (2008) and Zhang and Zhang (2013), found that the context indicates the instructional context. The most common issues of these two kinds of contexts show that the reader, text, strategies, and task are involved in the cases of these two kinds of contexts. These factors are also summarized in Table 2.3 in a comparison of the different authors' views. These factors in reading comprehension are also to be considered as the main factors that can be reflected during the instruction process for reading comprehension.

**Table 2.3***Comparison of Various Researchers' Views on the Factors Affecting the Reading Event*

Authors	Factors affecting the reading event					
	Teacher	Strategy	Reader	Task	Text	Context
Snow (2003)			✓	✓	✓	✓
Walker (2008)		✓	✓	✓	✓	✓
Staden (2010)	✓	✓	✓	✓	✓	✓
Zhang & Zhang (2013)			✓		✓	✓
Suwanto (2014)		✓	✓	✓	✓	✓
Fitrisial et al. (2015)	✓	✓	✓		✓	
Widdowson (2015)		✓	✓		✓	
Yang (2016)	✓	✓	✓	✓	✓	✓
Zhang (2016)			✓		✓	✓
Gilbert (2017)			✓		✓	

**2.5.3 Criteria for the Development of the Teaching Model**

A model is a design of practical procedures that can be used in teaching school children to achieve their desired goals (Akyol et al., 2014; Ghilay & Ghilay, 2015; Habók, 2012). Richey and Seels (1994, cited in Joyce et al., 2015) stated that the term 'model of teaching' means preparing a plan that can form the basis for the teaching design and developing teaching materials in the classroom environment or other settings. Borich (2014) also highlighted that an educational model can include instructional specifications combined with instructional theory and learning practice, thereby ensuring the quality of education. In this process, the focus is on an analysis of learning goals and needs, and the goal is to monitor the teaching and learning process and to meet emerging needs. To elaborate on an instructional design like this, Gustafson and Branch (2002) summarized a variety of traditional instructional design models. The models they described stress such core elements as analysis, design, development, implementation, and evaluation.

However, Reiser and Dempsey (2012) underlined some criteria that should be involved in all instructional design models. They pointed out that instructional design should fulfill the following criteria: it has to (1) be student-centered; (2) be goal-oriented; and (3) be focused on meaningful performance; as well as (4) be ensure the assessment of the validity and reliability of outcomes; (5) be empirically measurable and make self-correction possible; and (6) allow

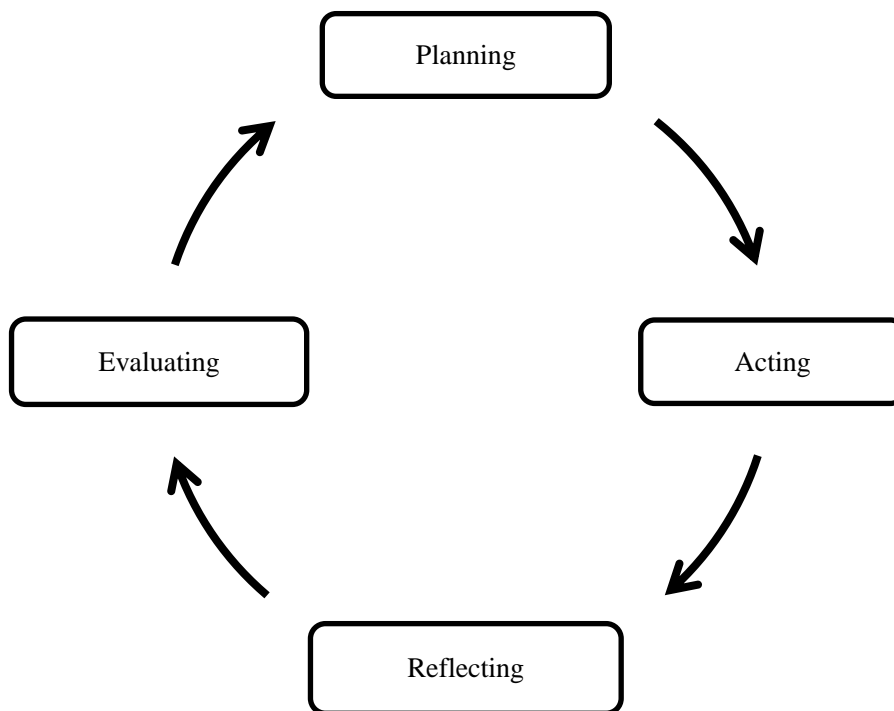
for a team effort. Based on these criteria, the authors attempted to develop a Reflective Teaching Model for Reading Comprehension (RTMRC) for the instruction of reading comprehension in ELT.

#### ***2.5.4 New Idea for Developing the Reflective Teaching Model for Reading Comprehension***

To conclude the conceptual alternatives of reflective teaching described above, first, the most distinct factor described by almost all the researchers in reflective teaching (Ashwin et al., 2015; Cirocki & Farrelly, 2016; Fatemipour, 2013; Garzon, 2018; Hulsman et al., 2009; Pollard, et al., 2014; Ratminingsih et al., 2017; Richards & Lockhart, 2007; Spalding & Wilson, 2002; Taggart & Wilson, 2005) is that reflective teaching is a cyclical and conscious process. Therefore, a teacher who uses reflection should know the main concepts of this process. Second, considering what distinct stages from Table 2.2 are to be included in this process, various researchers have consistently described four main stages in this reflective teaching process: planning, acting, reflecting, and evaluating. Their common descriptions are figured out as follows (see in Figure 2.1).

**Figure 2.1**

*The Reflective Teaching Process*

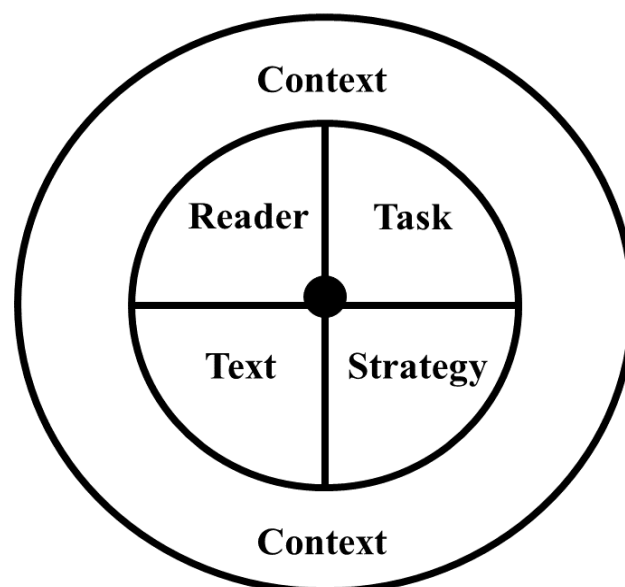


*Note.* Based on the above summarization

In the conclusion of the reading comprehension process, according to these above researchers, *the first main idea* is that reading comprehension is a process in which the reader interacts with the text. Actually, in the reflective teaching process related to students' reading comprehension, merely reflecting on the reader and text is not sufficient. Therefore, *the second main idea* is that five distinct main factors affect students' reading comprehension process according to the researchers (Fitrisial et al., 2015; Gilbert, 2017; Snow, 2003; Staden, 2010; Suwanto, 2014; Walker, 2008; Widdowson, 2015; Yang, 2016; Zhang, 2016; Zhang & Zhang, 2013). These factors are listed in Table 2.3. These are context, strategy, reader, task, and text. *The third main idea* is that the notion of 'context', where instruction occurs as a kind of instructional context, is interconnected with other factors, such as task, reader, text, and strategy. To reconfirm the role of this third concept, Walker (2008) also stated that context, which proceeds during the teaching event, plays a key role in influencing learning. She highlighted some important factors to be considered during the teaching context. These are the teaching strategy (teacher's methodology), organization work while completing the reading task (group work, pair work, individual work, and scheduling), text (source of information), and reader's characteristics (prior knowledge and previous experiences in learning situations). Therefore, the structure of these three main ideas is visualized in Figure 2.2.

**Figure 2.2**

*Factors in the Reading Event*



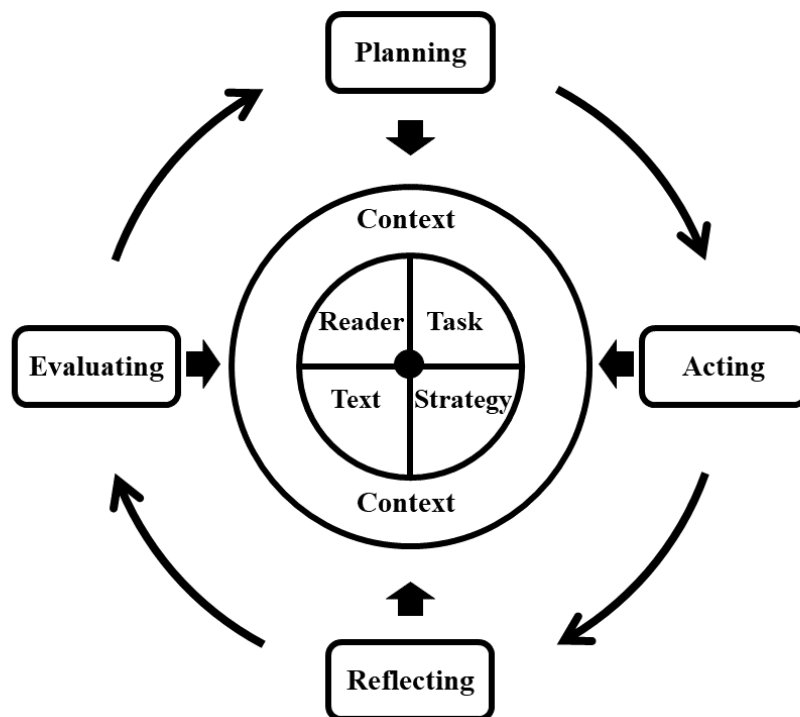
*Note.* Based on the above summarization



Based on a number of studies (Ashwin et al., 2015; Cirocki & Farrelly, 2016; Fatemipour, 2013; Garzon, 2018; Hulsman et al., 2009; Richards & Lockhart, 2007; Spalding & Wilson, 2002; Taggart & Wilson, 2005), reflective teaching is used in different fields such as mathematics, English language teaching, dance education, and the sciences. Therefore, to apply the reflective teaching process in teaching reading comprehension, the teacher can construct a new reflective teaching model for reading comprehension, and conduct experimental research to test it. Richey and Seels (cited in Joyce et al., 2015) stated that the model of teaching consists of planning and designing teaching materials and implementing teaching in the classroom environment or in other settings. Therefore, to be able to construct a reflective teaching model, the previously mentioned two reasoned summaries (*reflective teaching process* and *factors in the reading event*) can be integrated (in accordance with the instructional design criteria mentioned above) into the teaching design of the reflective teaching in the reading comprehension process. On the whole, a theoretical Reflective Teaching Model for Reading Comprehension (RTMRC) can be created as shown in Figure 2.3.

**Figure 2.3**

*Reflective Teaching Model for Reading Comprehension (RTMRC)*



*Note.* Combination of the summarized reflective teaching and reading comprehension processes

Four main components are involved in this reflective teaching model, RTMRC: planning, acting, reflecting, and evaluating. According to Richards and Lockhart (2007, p. 28), in the planning stage, the teacher can plan the factors before the teaching session. For example, who is going to do what activities (reader and task)? How does the teacher intend to implement his/her revised teaching strategies (strategy)? What are the changes to the curriculum (text)? To monitor these components, the teacher can use different types of reflective tools, such as student questionnaires, observation schemes, portfolios and so on.

In the acting stage, the teacher can execute the previous planning parts. In the reflecting stage, Richards and Lockhart (2007) also highlighted that teaching events will rarely go precisely as expected in implementing the plan. The most important factor in this stage is to make certain to record any deviations from the plan and the reason why they have occurred. The teacher can use the structured students' questionnaire and observation scheme as the reflecting pools to reflect on what has happened during the teaching-learning process (Brookfield, 2017; Habók & Magyar, 2018)

In the evaluating step, the last point of the cycle, Richards and Lockhart (2007) also suggested that the teacher can evaluate two factors: the teaching-learning process and students' achievement. To evaluate the teaching-learning process, the teacher can review the questionnaires and observation schemes that are applied in the reflecting stage. After evaluating the questionnaires and observation schemes, the teacher can think about what actions (strategy/task/reader/text) are to be changed for the next lesson. As regards students' achievement, the teacher can assess students' performance in test at the end of the learning session or unit.

### ***2.5.5 Experts' Perceptions of the Reflective Teaching Model for Reading Comprehension (RTMRC)***

We applied two levels to develop a theoretical Reflective Teaching Model for Reading Comprehension (RTMRC). In the first level, various authors' conceptual alternatives of reflective teaching and reading comprehension were reviewed, analyzed, synthesized, and summarized to develop a new theoretical RTMRC design for ELT. In the second level, the evaluation form of this theoretical RTMRC design and its related reviewed descriptions were sent to experts (see in Table 2.4) in teaching methodology and English language teaching for evaluation. Criteria developed by Reiser and Dempsey (2012) were used to evaluate the effectiveness of the RTMRC.

**Table 2.4***Names and Positions of Experts/Researchers*

<b>Name</b>	<b>Field and Position</b>
Dr. Soe Than	Professor & Head of Methodology Department, Yangon University of Education, Myanmar
Dr. Wai Wai Oo	Professor & Head of Methodology Department, Sagaing University of Education, Myanmar
Dr. Zaw Tun	Professor & Head of Department of English, Yangon University of Education, Myanmar
Dr. Mi Mi Gyi	Professor & Head of Department of English, Sagaing University of Education, Myanmar

In this stage of evaluation, an evaluation form which was adapted from Nguyen and Suppasetserree (2016) was developed by the researchers. This evaluation form (see in APPENDIX H) is also based on the instructional design criteria of Reiser and Dempsey (2012) mentioned above. There are two main parts in this form. In the first part, a four point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree) was used. In the second part, a list of open-ended questions was attached to monitor experts' thoughts and opinions on the developed model, after which the RTMRC was reconstructed on their recommendations similar to the research of Nguyen and Suppasetserree (2016). The results were grouped into three main levels to evaluate the efficacy of the RTMRC on reading comprehension.

As for the criteria for the effectiveness of the RTMRC model, examined means and standard deviations using descriptive statistics. In case where the mean of the evaluation list ranges from 1.00 to 2.00, it indicates that the RTMRC is less appropriate, according to the experts' opinion. If the mean is between 2.01 and 3.01, it also reveals that the RTMRC is appropriate. According to our interpretation, if the mean falls between 3.02 and 4.00, it indicates that the RTMRC is the most appropriate. Table 2.5 presents the results of experts' opinion.

**Table 2.5***The Results of Experts' Evaluation on the Development of RTMRC*

No	Items	Mean	SD
1	Step 1, Planning is appropriate.	3.50	.58
2	Step 2, Acting is appropriate.	4.00	.00
3	Step 3, Reflecting is appropriate.	3.00	.00
4	Step 4, Evaluating is appropriate.	3.00	.00
5	The steps in the RTMRC are clear and easy to implement.	3.75	.50
6	The outcomes can be measured in a valid and reliable way.	4.00	.00
7	The RTMRC is empirical, iterative, and self-correcting.	4.00	.00
8	Each element of the RTMRC is linked to another element.	3.75	.50
9	The RTMRC can facilitate student-student interaction.	4.00	.00
10	The RTMRC has sufficient capacity to be able to teach students' reading comprehension.	3.25	.50
	Total	3.60	.50

Based on these findings, items 1, 3, 4, 5, 8, and 10 have slightly lower means, and items 2, 6, 7, and 9 have the highest mean scores. However, this is not a great problem, as all mean scores for these items are above 3.02 (based on the above criteria for the effectiveness of the RTMRC). Thus, it can be interpreted that all the steps in the RTMRC design are highly appropriate for providing instruction in reading comprehension in ELT, according to the experts. In addition, all the experts agree that: (1) the steps in the RTMRC are clear and easy to implement in a classroom environment; (2) the outcomes can be measured in a valid and reliable way; (3) the RTMRC makes self-correction possible; (4) each element of the RTMRC is linked to another element; (5) the RTMRC can facilitate student–student interaction; and (6) the RTMRC has sufficient capacity to be able to teach students' reading comprehension.

This self-developed RTMRC is applied as the theoretical framework of the current research. Therefore, it is also discussed in detail in the next chapter (Chapter 3) as the theoretical framework of this research.

## **2.6 Empirical Alternatives to Reflective Teaching Practices**

Today, many researchers use different types of classroom research to engage in reflective teaching in the English Language. In this section, eight works of literature (from October 2009 to Sep 2018) are reviewed focusing on the empirical factors of their reflective teaching practices. The required data were collected based on the following databases: Scopus, Web of

Science, SZTE Libraries' online source, EBSCO (A–Z), ERIC, SJR (Scimago Journal and Country Rank), and Google Scholar. The selection criteria are based on Gliner et al.'s (2018) four categories of classroom research methods: (1) non-interventionist research, (2) interventionist research, (3) action research, and (4) observational research. To discuss the methods in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria for systematic review (Liberati et al. 2009), five main areas are focused upon and reviewed: (1) research type, (2) participants, (3) measuring instruments, (4) data analysis, and (5) brief findings. These studies are revised, compared, contrasted, and used to deduce a methodological idea for the current research.

### ***2.6.1 Non-interventionist Research and Reflective Teaching Practices***

First, Aliakbari and Adibpour (2018) conducted non-interventionist classroom research to explore the current status of reflective teaching among Iranian EFL teachers and their perception of fundamental challenges to teacher reflection. They used a mix-method approach of the questionnaire and open-ended survey. The participants were 176 teachers at Iranian State High Schools. The questionnaire included items with a five-point Likert scale ranging from 'never' to 'always'. For data analysis, they mainly used descriptive statistics. To indicate whether any significant discrepancy existed between the expected and observed behaviors, the chi-square goodness-of-fit test was run at the item level. Concerning the data collected through the open-ended survey, the recurrent themes were identified, and the major categories of challenges, subcategories, and their frequency of being mentioned were extracted. The results implied the necessity for change in teacher education programs and highlighted the role of the Ministry of Education in facilitating teacher reflection.

Reviewing the literature of Cirocki and Farrelly (2016) showed they also conducted non-interventionist classroom research in English as a second language (ESL) teaching. Their study aimed to better understand to what extent the Sri Lankan ESL teachers participated in classroom research of reflective practices. Furthermore, they engaged teachers in a discussion of the reasons why they want or do not want to be teacher-researchers. The research population consisted of forty-five ESL Sri Lankan teachers. Two types of instruments, hard copy questionnaires, and semi-structured interviews, were used to investigate the participants' perspectives about classroom research. They used descriptive statistics to show the frequency distribution of the participants (i.e., what percentages of the participants' different perspectives were observed in the teachers' classroom research). In their findings, almost all participants agreed that more classroom research should be done in ESL classrooms.

To critique the above two studies, the most distinct fact is that they did not give any treatment or intervention to the students and did not use pre- and post-tests to measure student achievement. They did not interfere with or manipulate the classroom context in any way. By their research design, the participants were either teachers or students. They used different measuring instruments such as questionnaires and interviews. Both studies also used descriptive statistics to analyze their collected data.

### ***2.6.2 Interventionist Research and Reflective Teaching Practices***

Akyıldız and Semerci (2016) conducted an interventionist experimental research in English Language Teaching (ELT). Their aim was to investigate the effect of a Cognitive Coaching supported Reflective Teaching (CCRT) approach on the academic and performance success of students in ELT. Ninety-four preparatory class students participated in the research from four different fields of the School of Foreign Languages at the Firat University in Elazığ. In their study, they used a pre- and post-tests control group design, which lasted seven weeks. During the intervention period, the teachers taught the students of the experimental group by the CCRT approach, and the control group was not given this approach. For data collection, the researchers developed pre- and post-tests and used them in the assessment of students' academic achievement and performance success. The researchers also used the performance test in the third week after the experimental study to compare the retention of what they had learned. For data analysis, they used an independent sample *t*-test to compare the differences between the experimental and control groups. In their findings, the CCRT approach was very significant compared to their traditional teaching approach, and thus, the CCRT approach may be very useful in ELT.

Sen and Ford (2009) also conducted an interventionist classroom research to investigate the effectiveness of their SEA-change model of reflection. SEA stands for situation, evidence, and action. In this model, there are three main elements; Situation-consideration (S), Evidence-consideration during reflective teaching (E), and action (A) based on the results of the reflective process. Sen and Ford constructed the model and tested it on twenty-two MA Librarianship students responsible for 116 reflective journal entries within one year. These were incorporated into the SEA-change model. Teachers and mentors reflected using a progressive 'de-scaffolding' method for facilitating students' autonomy. For data analysis, they used different types of tests to identify the change or the need for change for their model development and to investigate the effectiveness of their model. They found that deep reflection and the SEA process were of great importance for teachers' professional development and for students'

academic and autonomous learning. However, they recommended additional longitudinal research to be able to construct an even better model.

To review the interventionist studies, the most distinct feature was that researchers could control their design and implementation by giving a treatment or intervention and asking to write the journal entries. As this design depended on intervention, the experimenter would set up two experiments, one in which the students can learn their texts in their usual way and a second where intervention or treatment is introduced during the researcher's experimental instruction. The interventions were respectively given by the experimenter's methods, such as the CCRT approach and the SEA-change model of reflection. Then, to check for the effect of an intervention in the experiments, the experimenter used different types of tests e.g., pre- and post-tests. Another important factor in this method was that the tests were developed by the researchers themselves. They then compared the differences of the results from the tests for their investigation of experimental effects. The most distinct part of the above two interventionist studies is the participants were mostly students and few teachers.

### ***2.6.3 Action Research and Reflective Teaching Practices***

Wong et al. (2009) conducted an action research study to explore the effect of how a reflective approach can be applied by both teacher and students in the classroom instruction of theological education. In this study, they asked for help from seven participants (six professors and one career counselor). By using reflective practice in their instruction, they identified better ways to teach students effectively. During their two years study, they met twenty times and conducted two retreats, using notes, summaries of findings, recording key events, following up on lesson plans, keeping track of observations and reflections of group members, and collecting data as necessary. In their study, they used different reflective tools (portfolios, journals, dialogues, and reflective questions based on the text). In their result findings, the reflective practice was shown to help the teachers become better evaluators of their students and more effective teachers if they could adopt these practices systematically.

Töman (2017) also conducted action research to study the effectiveness of reflective teaching practice on pre-service teachers' development in teaching skills. In this study, thirty-two pre-service teachers at the Bayburt University Faculty of Education Department of Elementary Science Education were involved for twenty-eight weeks. He developed an observation form for determining the pre-service teachers' skills in planning, applying, and evaluating courses. The pre-service teachers' courses were videotaped and these pre-service teachers were requested to write a diary of their experiences, to make a self-evaluation from

the videotaped courses, and to change their teaching strategies (based on evaluating the videotape) as necessary. During the study, three special methods were allowed to be used by the pre-service teachers in three periods. After one period, they were to reflect on their teaching-learning situations and look for what might be necessary to change in order for a better outcome in the next periods. Töman used his observation forms to observe the teaching process of the pre-service teachers and conducted a semi-structured interview with them to better understand the effect of their reflective teaching practices on their teaching skills. The qualitative data were analyzed by the use of a content analysis method. The distribution level of these teaching skills was shown by frequency percentages. In the findings, it was found that in the first session the pre-service teachers were not managing their planning steps very well. However, they became better in their next sessions due to the systematic reflection.

To summarize the above two studies, the most distinct aspect is that the researchers were practically motivated and sought to solve identified problems within the classroom context. In both studies, they sought to affirm the effectiveness of reflective practices in their field of education. The researchers, themselves, were also participants in the process of the investigation. They often met and discussed their findings with the study subjects. These types of studies are very specific and process-oriented. They used enough time for a thorough investigation. Both action research was also context-specific, process-oriented, and often described as cyclical (step by step process). By focusing upon their research aims, as the participants, they chose a deep engagement with students. They used different types of investigation materials including journals, reflective questions for texts, dialogues, portfolios, observation forms, and video recordings.

#### ***2.6.4 Observational Research and Reflective Teaching Practices***

Fatemipour (2013) conducted an observational research study to determine which reflective teaching tool is more reliable by comparing the following different reflective tools: teacher diary, peer observation, students' feedback questionnaire, and audio recording. The participants were ten teachers and 234 English major students from two colleges in Chandigarh, India. In this study, the teachers used the above four tools for each class. While the respective teachers taught their classes, the researcher (as a non-participant observer) observed the classroom activity and took notes for completing a questionnaire later. He also used tape-recordings of the teaching process. The recorded tape was reviewed together with a teacher colleague; furthermore, the provided questionnaire was completed accordingly together. After the teaching process, the students were also asked to fill out questionnaires related to their



feelings about the instruction. Next, the teacher was also asked to reflect (by questionnaire) on his teaching. For the data analysis, the Pearson Coefficient of Correlation and ANOVA tests were used to compare the differences obtained among the data from each of the different reflective tools. In the findings, the teacher's reflective diary was considered the most effective tool compared to the other reflective tools (peer observation, students' feedback, and audio-recording). At the same time, the peer observation effort was seen to be more effective than the other two reflective tools (students' feedback and audio-recording).

Another observational research study, Wu and Wu (2016), explored the importance of the reflective teaching concept and its effective and practical forms in teachers' behavior. In their study, five business English teachers and their students (Huaiyin Institute of Technology - HYIT) participated. During the teachers' respective reflective teaching process, teaching journals, peer observations, and peer coaching were done to determine which teaching-learning situation was most effective. They also used students' questionnaires and interviews to investigate the differences between the results before and after their teaching. They used descriptive statistics and frequency distributions to analyze the questionnaires and interview data. They also used *t*-tests to analyze the differences between the opinions (of teachers and their students) before and after using the reflective teaching approach. As their main finding, the authors stated that the teaching outcomes were better when reflective teaching efforts were used.

To review the above observational studies, the most distinguishing factor is that classroom activities are observed by using different reflective teaching tools such as teacher's diaries, students' feedback questionnaires, peer observations, and audio recordings. Depending on the research goal, some observational studies used both teachers and students as the research participants. In these observational studies, the researchers were non-participant class observers. Furthermore, they asked the students to fill out questionnaires and undertake interviews. To analyze their collected data, they used a *t*-test and ANOVA respectively to help analyze their research findings.

### ***2.6.5 Methodological Idea - Conclusion to the Empirical Alternatives of Reflective Teaching Practices***

To summarize the above classroom studies (non-interventionist, interventionist, action research, and observational), there are some important differences between each. For example, in the case of an interventionist study, it places an emphasis on students as the participants in order to discover the effectiveness of a treatment or intervention. However, in the cases of non-

interventionist studies, action research, and observational studies, they place more emphasis on teachers, or sometimes on both teachers and their students based on their research objectives. As for instruments used in these four types of studies, pre- and post-tests are emphasized in interventionist research, while questionnaires, interviews, and other reflective tools can be found in other research studies.

In an interventionist study, it can be seen that the researcher attempts to control extraneous variables as much as possible because such studies are based on establishing a more narrow baseline for participants who are evaluated by pre-tests. Lowen and Philp (2012) also exclaimed that the interventionist research type has many strengths compared with the non-interventionist studies because the researcher in the interventionist study can have much control over his/her research design and its implementation. The pre- and post-tests of interventionist studies are usually constructed by the researchers themselves depending upon the text objectives they used, while, in other research types, the questionnaires/interviews are sometimes constructed by the researcher himself but also by adapting/copying other researchers' work. Depending upon their research objectives, different research methods used different statistical analyses.

In interventionist studies, the duration of the research period is very similar to that of non-intervention, and observational studies. However, for action research studies, the researcher needs enough time for conducting action research, which is generally a longer period than the other studies. In action research and observational studies, more reflective tools can be found in use. In interventionist studies, the researcher may be either a participant or a non-participant in the process of conducting his/her intervention on the experimental group. However, in the action research, the researcher must be a participant: Such action research is context-specific, process-oriented, and uses two or three or more cycles or steps in the research plan.

The interventionist study is often used in evaluating the effect of one type of teaching approach or teaching strategy/model. However, in other types of studies, researchers often investigated classroom behavior, in addition to evaluating the effectiveness of the treatment or intervention. The most common statistic used in the analysis of data from an interventionist study is the independent samples *t*-test. This is mainly used to reveal the difference between the pre- and post-tests means of the experimental and control groups as a way to check the effectiveness of the treatment or intervention.

There are, of course, many similarities between these four types of classroom studies. They depend upon reflective teaching practices. They seek to improve teaching or training practices. They work in a wide range of reflective teaching practices across a number of fields such as

theology, English language teaching, business English, and Library and Information Services education. Therefore, it can be understood that reflective teaching can be used in many different fields of education. A brief summarization of the above studies is described in Table 2.6.

**Table 2.6**

*Summarization of the Empirical Alternatives on Reflective Teaching Practices*

<b>Studies/research</b>	<b>Participants</b>	<b>Instruments</b>	<b>Analysis</b>
Non-interventionist	Teachers or students	Questionnaires/Interviews	ANOVA, mostly descriptive statistics
Interventionist	Students	Pre- and Post-tests	<i>t</i> -tests, and other effect sizes
Action Research	Both teachers and students	Questionnaires/Interviews and other reflective tools (teacher's journal, students' feedback questionnaires, video recording, peer reviews)	ANOVA, mostly descriptive statistics
Observational	Both teachers and students	Questionnaires/Interviews and other reflective tools (teacher's journal, students' feedback questionnaires, video recording, peer reviews)	ANOVA, <i>t</i> -tests, mostly descriptive statistics

*Note.* ANOVA (analysis of variance)

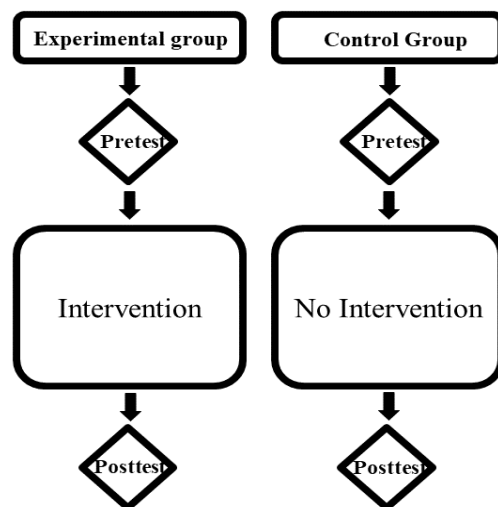
The point of emphasizing the difference between interventionist studies and other research study types is to show that the researcher in an interventionist study can control other extraneous variables more than in other research designs. Another important factor is that interventionist studies are often representative of natural instructional contexts and these studies may not differ appreciably from what students might do in their normal classes (Loewen & Philp, 2012). Actually, compared with other research methods, the interventionist study can maximize the effect of reflective teaching practices. For these reasons, we like the interventionist study of Akyıldız and Semerci (2016) which was a seven-week university study conducted in Turkey. They investigated the effect of cognitive coaching-supported reflective teaching approach in English Language Teaching. Since the goal of the current research is to investigate the effects of teachers' reflective teaching practices on Myanmar students' reading comprehension achievement in ELT at the upper secondary school level, this interventionist study has been chosen as the current methodological framework for conducting such a research project in Myanmar. There is a research gap in the published literature as there are no reflective teaching models which emphasize reading comprehension in Myanmar. All the above-

reviewed literature is about reflective teaching, but in different fields, not emphasized on reading comprehension. In the above interventionist study of Akyıldız and Semerci, they did not develop the reflective teaching approach themselves, but they used one which was presented by other authors. Therefore, to show similar positive effects of reflective teaching practices in reading comprehension, an interventionist study is the most appropriate method for this research.

Non-interventionist studies did not use pre- and post-tests; they merely collected the reflective perspectives of either teachers or students engaged in teaching and learning activities. In action research, researchers have to spend enough time conducting their research to obtain results. The results of action research are better and more valid when the researcher can spend enough time to conduct a thorough research plan. In the case of observational studies, they are interesting because they use practical data directly from classroom observations. And many reflective teaching tools can be used in classroom observational studies. We noticed that action research and observational studies are additional useful methods for reflective teaching.

However, in the this study, we want to develop an instructional design for the reflective teaching practices and experiment with it in teaching the reading comprehension process to Myanmar Upper Secondary School students. Therefore, it will be necessary to develop a research design and conduct a quasi-experiment to evaluate whether this intervention is effective or not in students' learning of English reading comprehension. For the intervention, the teacher is going to use the instructional design (the interventionist study). The research model for such an interventionist study is shown in Figure 2.4.

**Figure 2.4** *The Research Model for the Experiment of Reflective Teaching Model for Reading Comprehension*



*Note.* Adapted from Gleaner et al. (2017, p. 73).

We will apply the reflective teaching practices by the interventionist research method. Based on the reflective teaching practices or reflective teaching model for reading comprehension, the experimental group will be given the treatment/intervention while the control group is not given such kinds of reflective teaching practices. Before the intervention with reflective teaching, the teacher is going to give the pre-tests to both experimental and control groups to know the initial levels of the students. After the intervention period, both groups are given the post-tests to evaluate the effectiveness of reflective teaching practices in teaching students reading comprehension in ELT.

This study is considered to be conducted in Myanmar. Therefore, the structure and the brief assessment system of Myanmar Education are also presented.

## **2.7. Education System of Myanmar**

### ***2.7.1 Structure***

Ministry of Education is mainly responsible for all functions of basic education by dividing it into three levels of education; primary (total five years), middle (lower secondary for a total four years) and high (upper secondary for a total three years) (Soe et al., 2017). This system is also called the combination of Kindergarten plus 12 years (KG+12) (see in Figure 2.5).

***Early childhood and pre-primary education:*** In Myanmar, children (below five years of age) have no chance to attend public schools. If they wish to attend other private day schools and private pre-primary schools, they (three-five years of age) can attend there with appropriate fees. There is no specifically designed curriculum framework at these levels. Most Myanmar children (especially in rural areas) do not attend these kinds of schools. Only children in an urban area can attend such kinds of schools (Soe et al., 2017).

***Primary education:*** The primary education is obligatory for all Myanmar children, and it is also the first level of basic education for them. It takes five years (one year of kindergarten and four years of primary education). Primary education is composed of two levels; lower and upper primary education. The admission age is five years and above. It lasts six years (from Kindergarten, Grades 1, 2, 3, 4, and 5), and to proceed to the secondary schools, students must pass a comprehensive examination (national level) of basic subjects (Myanmar, English, and Mathematics) after Grade 5. The English language is taught starting from the kindergarten level (Hayden & Martin, 2013).

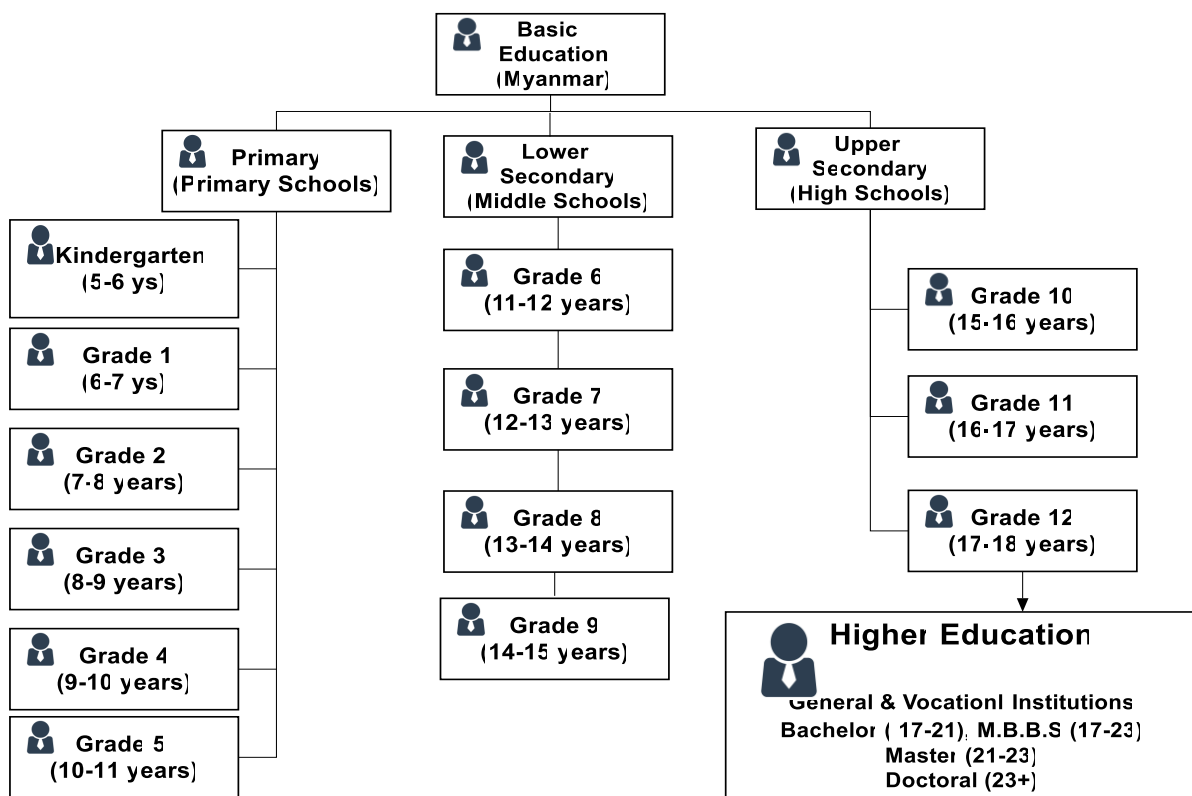
***Lower secondary education (middle schools):*** It is the second stage of Myanmar's basic education. Its level has four grades (Grade 6, 7, 8, and 9). At the end of Grade 9, the students

must sit the comprehensive exam (national level) of basic subjects; Myanmar, English, and Mathematics (Ministry of Education, 2015).

**Upper secondary education (high schools):** In Myanmar, upper secondary schools (high schools) are under the Basic Education system of Myanmar. It has three levels such as Grade 10, 11, and 12. At the end of Grade 12, the students must pass the matriculation examination (national level) of all subjects prescribed by the Ministry of Education. Based on the marks (0-100 points) of their matriculation examination, they are chosen by the various institutions (general and vocational) in different ways. There is no entrance exam in all institutions of Myanmar, however, based on this matriculation exam result to attend these institutions (Ministry of Education, 2015).

**Figure 2.5**

*Education System of Myanmar*



*Note.* Adapted from Ministry of Education (2015, p. 34)

### 2.7.2 Assessment System

**System assessments:** In Myanmar, under the Ministry of Education, the Comprehensive Education Sector Review (CESR) was organized in 2012 for assessing and reforming the education system. The CESR organization principally performed a systematic analysis of the

quick assessment of the education system for supporting the Education Promotion Implementation Committee (EPIC). Under this organization, CESR, there are 18 thematic working groups formulating the education policies which are focused on promoting the education quality and on the well-development of different education sectors (Soe et al., 2017).

**School and teacher assessment:** In Myanmar, the average class size in Basic Education level is 50, however in the rural area, the class size is more than 50. And as for the teachers, a University degree (in any specialized subjects) is generally mandatory for all teachers at the primary school levels in Myanmar. However, in some remote areas, there is not enough graduated teacher, and thus, teachers in these remote areas just need one type of certificate which is higher than the matriculation level or the completed certificate from a short-term teacher training (Ulla, 2017). Nevertheless, some teachers in these remote areas have never attended any teacher training. And these teachers are permitted to teach the primary school children after receiving some teaching experiences. Until now, two-thirds of schools in Myanmar have still required enough teachers because there are not enough teachers in remote areas and in some crowded rural schools. The academic qualifications of Basic Education teachers in Myanmar are shown in Table 2.7. To solve this problem, the pre-service and in-service teacher training programmes are planned under the supervision of MOE (Lwin, 2001).

**Table 2.7**

*Myanmar Basic Education Teachers by Academic Qualifications*

Period	No. of Teachers		
	Graduates (Most Bachelor, Few Master)	Un-graduates	Total
2007	229,702	24,450	254,152
2008	237,080	22,252	259,332
2009	243,895	17,577	261,472
2010	255,642	17,339	272,981
2011	253,299	24,345	277,644

*Note.* Soe et al. (2017, p. 16)

**Student assessment:** In the case of Myanmar, the assessment on the achievements of Basic education students can be implemented in different ways; *classroom levels*, *school levels*, and *national levels*. There is no international assessment. However, in private schools at the basic education level, they take the international assessment, especially in the subjects of the English language (Tin, 2014).

According to the Ministry of Education (2015), formative assessment and summative assessment are applied for *the classroom-level assessment*. Formative assessment is performed by the teachers' daily observing activities and giving homework, and summative assessment is done by the written exams at the end of the chapter. As for *the school-level assessment*, the first, middle, and year-end exams are given to every grade of basic education. Depending on the results of these three tests as well as the classroom-level assessment, students will be promoted to the following grade. Assessments at the completion of each basic education level are conducted yearly by using a written exam at the local level. The exam at the completion of Basic education (primary, lower secondary, and upper secondary), which assesses how much students achieved objectives of the basic education, is conducted at *the national-levels* (now, it changed to the township or district-levels) (Hayden & Martin, 2013).

## **2.8 Summarization**

On the whole, this chapter addressed three main parts: (1) conceptualization to teaching reading comprehension, (2) theoretical development of a Reflective Teaching Model for Reading Comprehension (RTMRC), and (2) empirical alternatives involving reflective teaching practices in different fields of education. Before the theoretical development of RTMRC, the teachers need to understand the nature of the reading comprehension process and teaching functions, teaching strategies in teaching reading comprehension. Therefore, we first presented the conceptualization to teaching reading and its instructional strategies (reciprocal, interactive, and questioning). To help students' complete understanding, reflection is the fundamental basis according to transformative learning theory. Therefore, the nature of transformative learning and the importance of reflective teaching in reading comprehension are described in the earlier parts of this chapter.

Second, to theoretically develop the RTMRC, we reviewed different studies of the reflective teaching process. And we summarized ten studies of reflective teaching process to compare the similarities and differences among them. And it was found that the four main factors (planning, acting, reflecting, and evaluating) are most common in the reflective teaching process. These factors are held across studies in a variety of teaching fields. However, it was necessary to look for ways to apply a reflective teaching process in the field of students' reading comprehension in ELT.

We explored literature on the students' reading comprehension process and examined factors that influenced teaching students the reading comprehension process. Different published research papers were reviewed, and comparisons were made to determine the similar



factors that appeared to influence the students' reading comprehension process. From the summarization of ten studies from these published papers, it was found that four main factors were important: the readers themselves, the teacher's strategy, the text, and the students' tasks during the instruction process. When these four main factors were identified, it seemed optimal if a reflective process emphasized these factors when teaching reading comprehension. Therefore, the current reflective teaching model for reading comprehension (RTMRC) was theoretically developed.

It should be pointed out that this is a face assessment of the appropriateness of the RTMRC for teaching reading comprehension. We were aware of the low sample size but seeing experts' opinions was important at this stage. All the experts confirmed that the RTMRC is logical and appropriate for teaching ELT reading comprehension.

Third, we investigated what types of classroom research were conducted by the reflective teaching practices in different fields of study. According to Gay (2012), the important factor for writing a literature review is to criticize the aspects or parts of the methodologies employed by these respective authors in conducting the research. To this end, we reviewed some types of research related to reflective teaching practices and summarized which factors were suitable or not for a research proposal. Since reflective teaching research is a broad category of classroom research, it was necessary to categorize the literature into four types: non-interventionist studies, interventionist studies, action research, and observational studies. In reviewing each research study there was a focus on how the research was conducted, who the participants were, what kinds of instruments were used, how they assessed their results, and how useful their findings were. A compilation and analysis of these individual studies was presented to identify gaps in these studies and distinctions between these studies. After reviewing these studies, we had a clear idea that using the interventionist study for this research was the best approach and to this end, a deduced research model was constructed (based on the methodological idea) for teaching students reading comprehension in ELT.

In implementing this research proposal, various reflective teaching concepts suggested directions to take and issues to address. For example, some concepts, such as reflective teaching being a cyclical process and different teaching strategies can be used or examined during the reflective teaching process, will help when conducting the actual research in the future. By understanding the factors affecting the reading comprehension process, we were better informed about which factors need to be emphasized while teaching students an ELT reading text. Among various factors affecting reading comprehension, this review has identified which factors can be stressed more in a reflective teaching design based on students' feedback. This

fact is also helpful for future research efforts. In the empirical analysis of the recent literature, the authors can now determine which research studies are best suited for this research proposal. There is no doubt that this literature review is a good foundation for conducting a future research project on reading comprehension.

In conclusion, according to Bannon (2010), “education is not just about preparing individuals to enter ‘industry’ but is instead about enabling people to act as catalysts who will ultimately improve industries in any number of ways” (p. 57). This literature review shows that the reflective teaching process is able to help both teachers and students think systematically about their actions and lead them to better lives: not merely by entering into the industry, but by enabling them to teach better with improved outcomes. Reflective teaching emphasizes 'reflection' which is often made not only by the teacher during his instruction but also by the students during their learning period. We believe this type of reflective teaching is of great importance for every teaching-learning situation and can enhance education as Bannon’s educational concept suggests.

**CHAPTER 3**  
**THEORETICAL FRAMEWORK OF THE RESEARCH**

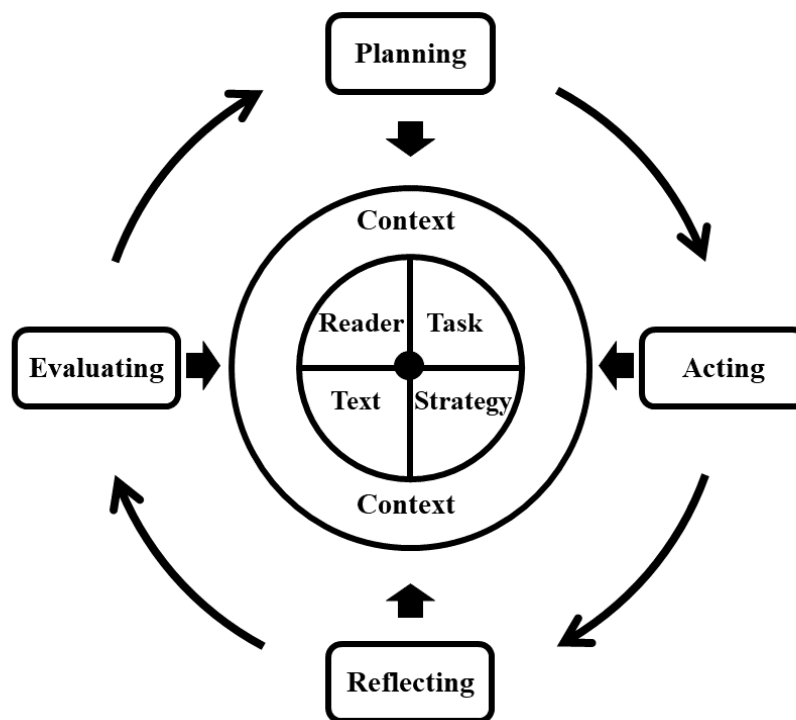
This chapter concerns the theoretical framework of the current research. All empirical studies of this research are based on this theoretical framework.

**3.1 Reflective Teaching Model for Reading Comprehension (RTMRC)**

The theoretical framework of this research follows the procedures of the Reflective Teaching Model for Reading Comprehension (RTMRC) which was developed in Chapter 2 after reviewing, summarizing, and reasoning different studies of reflective teaching and reading comprehension processes. The RTMRC model is also shown again to help the clearer explanation (see in Figure 3.1). The stages in the RTMRC framework are specifically explained.

**Figure 3.1**

*Reflective Teaching Model for Reading Comprehension*



*Note.* The current conceptual framework of the research

The RTMRC is student-centered, teamwork-oriented, and easy to implement in teaching students' reading comprehension skills. We followed the following theoretical procedures of the RTMRC framework.

### **3.1.1 Stage 1 – Planning**

Planning the lesson before the action is an essential contributor to teaching success (Ratminingsih et al., 2017). Therefore, the teacher needs to plan and consider whom to teach (*reader*), how to teach (*strategy*), and what to teach (*text*) as well as what kind of activities are going to give the students (*task*) (Oo et al., 2021).

**Planning for “reader”:** The teacher plans whom to teach (the students). In this current research, the participating teachers will teach the selected grade-10 students from Myanmar (see more information about the participants in Chapter 5).

**Planning for “strategy”:** The teacher considers the effective ways to teach the students. The participating teacher is going to use three teaching strategies: reciprocal teaching, interactive teaching, and questioning. Reciprocal teaching is a systematic strategy of reading comprehension that encourages students’ reciprocal actions of four performing roles; questioning, clarifying, summarizing, and predicting (Pilten, 2016). And interactive teaching is an alternate use of two teaching approaches; bottom-up approach (interpreting the meanings based on the knowledge of grammar about words, phrases, clauses/phrases, sentence syntax, and texts in detail (Ardhani, 2016) and top-down approach (decoding the meaning from the knowledge of combination between students’ schema knowledge about the text and their reading knowledge from the text (Birch, 2002). As for the questioning strategy, it is the teacher’s questioning technique to the class based on the “Initiate-Response-Evaluate model” Corley & Rauscher, 2013).

**Planning for “text ”:** The teacher prepares the English reading text as an instructional medium for students’ comprehension. In the current study, the teacher uses the informational and narrative school texts prescribed by the Ministry of Education, Myanmar.

**Planning for “task”:** The teacher arranges the reading activities and some reflective exercises/questions related to the reading text for students’ reflection on the reading text. And in this “*task*” planning, the teacher can organize some evaluative exercises/questions for the assessment of students’ achievement in reading comprehension. These evaluative questions can be asked the students at the end of the texts/units.

### **3.1.2 Stage 2 – Acting**

In this stage, the teacher teaches the students based on the ways he/she planned before. In carrying out the above plan, things will rarely go precisely as he/she planned before. However, the teacher should not be afraid of making minor deviations from his/her plan during the

experiential teaching. However, he should record any deviations from the lesson plans, and the reason he/she made them (Richards & Lockhart, 2007).

### **3.1.3 Stage 3 – Reflecting**

**Reflecting on “reader, strategy, text, and task”:** After teaching the reading text with the above teaching strategies, the teacher can reflect his/her instructional context involving reader, strategy, text, and task. To reflect the instructional context, Brookfield (2017) suggested four crucial lenses as (1) students’ eyes, (2) colleagues’ observation, (3) personal experiences, and (4) theory. The first two reflective sources are the teacher’s indirect reflection, and the latter two sources are the teacher’s direct reflection on the instructional context. The indirect reflections can be performed by the use of some reflective tools such as questionnaires, observation schemes, interviews, and the direct reflections can be carried out by some reflective tools such as teacher’s diary writing, self-reflective notes, tape-recordings, and portfolios (Fatemipour, 2013).

Teacher’s direct reflection (e.g., self-reflective notes and tape recordings) is very effective to know the real events or situations in the class; however, they are not willing to accept or change the weaknesses or negative factors in the instruction because “the teacher’s non-conscious motive is to avoid aversive situations and the responsibility of taking action” (Lengelle et al., 2016, p. 101). And Dewey does not suggest teachers reflect on everything because it is not possible (Kuswandono, 2012). However, students’ eyes/feedback is of great importance for teacher’s instructional improvement (Choy & Oo, 2012), and colleagues’ observation is one of the most fundamental and effective ways to improve teachers’ instruction (Mathew et al., 2017). Therefore, we use Brookfield’s (2017) indirect reflective ways; the student questionnaire (as the students’ eyes) and the observation scheme (observation scheme) (see more information in chapter 5).

In this stage of “reflecting”, the teacher can also create the reflective questions for students’ reflection on the reading text. To help the students’ complete understanding of the reading text, the teacher can provide reflective questions or homework at the end of the lecture periods (Oo et al, 2021). Therefore, in this study, the teacher furnishes the students with some reflective questions regarding the reading text.

### **3.1.4 Stage 4 – Evaluating**

For the evaluation of the instructional context (involving *reader, strategy, text, and task*) at the classroom level, the teacher can use both formative and summative assessments.

The formative assessment is a kind of evaluation that gives teachers the on-going information about the students' learning to improve the instruction, and it can be implemented by two ways of gathering information such as formal and informal in order to improve the students' learning (Moss & Brookhart, 2009). Assessments (“within and between the lessons – minute by minute”, “within and between the lessons – day by day”, “within and between the instructional texts/units”, and “across the periods, quarters, semesters, years”) can be considered as the formative assessment if they can provide the data enough for the teacher to use in the classroom to improve their instruction based on the preferences of the students (Michael & Susan Dell Foundation, 2016).

In this study, to evaluate the instructional context (concerning *reader*, *strategy*, *text*, and task), the teacher uses the formative assessment within and between the texts/units by the formal way of student questionnaire and observation scheme. Therefore, the teacher evaluates the data from the student questionnaire and observation scheme as the formative assessment. To evaluate the '*text*' factor from the instructional context, the teacher also uses the summative assessment for students' achievement. Summative assessment is a kind of teacher's assessment to evaluate students' learning achievement at the end of the text/unit or chapter or course (Houston & Thompson, 2017). For this reason, in this research, the teacher evaluates the students' answers from the evaluative questions relating to students' reading text at the end of the texts/units.

## CHAPTER 4

### AIM AND STRUCTURE OF THE EMPIRICAL STUDIES

This chapter focuses on describing the research aims, research questions, and hypotheses respectively. It is divided into two parts; pilot study and main study following the research questions and their hypotheses.

#### 4.1 Aim of the Research

Based on the problem stated in Chapter one, this research study aims at developing a new reflective teaching model for reading comprehension to encourage both pre-service and in-service teachers to reflect (think critically and systematically) on their teaching process, qualify teachers' method-centered teachings, and help the students comprehend their reading texts more clearly. The theoretical RTMRC was developed in Chapter 2, and its theoretical framework was specifically explained in Chapter 3. Therefore, to be able to help the teachers in qualifying their method-centered teachings for students' reading comprehension improvement, this research is conducted in search of the answers to the following research questions and hypotheses by dividing them into two phases; pilot study (three research questions) and main study (seventeen research questions).

#### 4.2 Pilot Study

The pilot study aims to validate the instruments which are going to be used in evaluating instructional processes of reading comprehension in Myanmar. For removing the cross-cultural inconsistencies from instruments, their content and construct validities are considered to be confirmed in this pilot study. Therefore, its research questions are as follows.

*Research Questions (RQ<sub>1</sub> – RQ<sub>3</sub>)*

RQ<sub>1</sub>: What is the content validity of the instruments?

RQ<sub>2</sub>: How well do the reading tests measure the students' achievement in reading comprehension in ELT?

RQ<sub>3</sub>: To what extent does the student questionnaire measure the factors (reader, strategy, text, and task) that affect a teacher's instructional event to reading comprehension?

Some research hypotheses are also estimated for the above research questions. They are as follows.

### *Research Hypotheses (RH<sub>1</sub> – RH<sub>3</sub>)*

RH<sub>1</sub>: The instruments which are going to be used in this study are reliable and valid regarding their content (Newman et al., 2013; Oo et al., 2021).

RH<sub>2</sub>: The reading tests used in this study can measure the students' different reading comprehension levels (literal, reorganizational, inferential, evaluative, and appreciative) effectively (Maram & Farrah, 2019).

RH<sub>3</sub>: Teacher's reflection by the use of student questionnaire (asking students to describe their opinions about teaching) is effective to reflect on the instructional event (Richards & Lockhart, 2007).

### **4.3 Main Study**

We experimented with three teaching strategies (reciprocal teaching, interactive teaching, and questioning) under the framework of RTMRC to qualify and examine their effectiveness in teaching reading comprehension. The main study was divided into four empirical parts investigating the effectiveness of some teaching approaches; reflection-based reciprocal teaching (RBQA), reflection-based interactive teaching (RBIT), reflection-based questioning approach (RBQA), and the overall effect of RTMRC on students' reading comprehension. Therefore, this main study aims to address the following research questions and hypotheses by dividing them into four separate parts.

#### ***4.3.1 Reflection-Based Reciprocal Teaching (RBRT)***

It is about the 1<sup>st</sup> part of the main study, the reflection-based reciprocal teaching (RBRT) on students' reading comprehension achievement. It aims to study the effectiveness of the RBRT approach on Myanmar students' reading comprehension achievement. And its research questions are as follows.

#### *Research Questions (RQ<sub>1</sub> – RQ<sub>3</sub>)*

RQ<sub>1</sub>: To what extent is the instrument (pre- and post-tests) reliable and valid for measuring students' reading comprehension achievement?

RQ<sub>2</sub>: What is the effectiveness of the RBRT approach on students' reading comprehension?

RQ<sub>3</sub>: What are the impacts of the teacher's instructional reflection on the students' reading comprehension achievement?

We have some expectations to address the above research questions. They are as follows.



#### *Research Hypotheses (RH<sub>1</sub> – RH<sub>3</sub>)*

RH<sub>1</sub>: The pre- and post-tests aimed for this sub-study are expected to be reliable and valid for measuring students' reading comprehension achievement (Egiyantinah et al., 2018).

RH<sub>2</sub>: Teaching students with the RBRT approach is very effective in their reading comprehension (Oo et al., 2021).

RH<sub>3</sub>: There is a positive relationship between the teacher's indirect reflection on the instructional event and students' reading comprehension achievement (Edwards, 2017).

#### **4.3.2 Reflection-Based Interactive Teaching (RBIT)**

It is about the 2<sup>nd</sup> part of the main study, the reflection-based interactive teaching (RBIT) approach on students' reading comprehension achievement in Myanmar. It aims to investigate the effectiveness of the RBIT approach on Myanmar students' reading comprehension in English. And its research questions are as follows.

#### *Research Questions (RQ<sub>4</sub> – RQ<sub>7</sub>)*

RQ<sub>4</sub>: How reliable is the instrument (pre- and post-tests) for measuring students' reading comprehension achievement?

RQ<sub>5</sub>: What is the effectiveness of the RBIT approach on students' reading comprehension achievement?

RQ<sub>6</sub>: What are the teachers' instructional reflection on the students' reading comprehension achievement?

RQ<sub>7</sub>: How did teachers improve their instructional processes?

We predict some research hypotheses to address the above research questions in the main study. They are as follows.

#### *Research Hypotheses (RH<sub>4</sub> – RH<sub>7</sub>)*

RH<sub>4</sub>: The pre- and post-tests for this sub-study are reliable and valid for measuring students' reading comprehension achievement (Ahmada, 2019).

RH<sub>5</sub>: The RBIT approach is very effective for students' reading comprehension achievement.

RH<sub>6</sub>: Teachers' reflection on the instructional context has a positive effect on students' reading comprehension achievement (Ratminingsih et al., 2017).

RH<sub>7</sub>: We expected that the participating teachers will reflect on the instructional events, and correct the instructional weaknesses to improve their instructions (Oo et al., 2021).

### ***4.3.3 Reflection-Based Questioning Approach (RBQA)***

It is about the 3<sup>rd</sup> part of the main study, the reflection-based questioning approach (RBQA) on students' reading comprehension achievement in Myanmar. This sub-study aims to find out the aspects of RBQA that affect Myanmar students' reading comprehension achievement. And its research questions are as follows.

#### *Research Questions (RQ<sub>8</sub>– RQ<sub>11</sub>)*

RQ<sub>8</sub>: How reliable is the instrument (pre- and post-tests) for measuring students' reading comprehension?

RQ<sub>9</sub>: What are the effects of the RBQA instruction on students' reading comprehension achievement?

RQ<sub>10</sub>: What is the effect of teachers' reflection practices on students' reading comprehension achievement?

RQ<sub>11</sub>: How did teachers improve their instructional processes?

We have some expectations in addressing the above research questions. They are as follows.

#### *Research Hypotheses (RH<sub>8</sub>– RH<sub>11</sub>)*

RH<sub>8</sub>: The pre- and post-tests, which are going to be used for this study, are reliable and valid to measure students' reading comprehension achievement (Ubaque & Pinilla, 2018).

RH<sub>9</sub>: The RBQA instruction is very effective for students' reading comprehension achievement (Oo & Habók, 2021b).

RH<sub>10</sub>: During the intervention with RBQA, teachers' reflection has a positive impact on students' achievement in reading comprehension (Oo & Habók, 2021b).

RH<sub>11</sub>: Learning from the fallacies of teachers' own teaching can improve their instructional process (Watkins, 2018).

### ***4.3.4 Reflective Teaching Model for Reading Comprehension (RTMRC)***

It is about the whole part of the main study (combination of the previous three sub-studies; RBRT, RBIT, and RBQA), the reflective teaching model for reading comprehension (RTMRC) for ELT in Myanmar. This aims to examine the effectiveness of RTMRC on students' English reading comprehension achievement in Myanmar. And this study also aims to investigate the difference between the schoolboys' and schoolgirls' achievement in reading comprehension; the difference among the selected schools concerning the students' achievement; and the

difference among the students' appreciation to the used three teaching strategies in this study. Accordingly, the following research questions were asserted.

*Research Questions (RQ<sub>12</sub> – RQ<sub>17</sub>)*

RQ<sub>12</sub>: What is the effect of RTMRC on students' reading comprehension?

RQ<sub>13</sub>: Is there any significant difference between schoolboys' and schoolgirls' reading comprehension achievement?

RQ<sub>14</sub>: Is there any significant difference among the five selected schools regarding students' reading comprehension achievement?

RQ<sub>15</sub>: Which teaching strategy is most appreciated by the students during the RTMRC treatment?

RQ<sub>16</sub>: What is the effect of teachers' reflections on students' reading comprehension achievement?

RQ<sub>17</sub>: What are teachers' reflections on instructional context (reader, strategy, text, and task) when RTMRC is employed?

We expected some issues with the following research hypotheses to prove the above research questions.

*Research Hypotheses (RH<sub>15</sub> – RH<sub>20</sub>)*

RH<sub>12</sub>: Teaching with RTMRC is effective for students' reading comprehension achievement (Oo et al, 2021).

RH<sub>13</sub>: There is a significant difference between schoolboys and schoolgirls concerning reading comprehension achievement (Huang, 2013).

RH<sub>14</sub>: There is a significant difference among the schools regarding students' reading comprehension achievement (Gouthro, 2020).

RH<sub>15</sub>: Reciprocal teaching strategy is expected to be most appreciated by the students during the RTMRC approach (Kumari, 2014, Oo et al., 2021).

RH<sub>16</sub>: Teachers' reflection on the instructional context during the RTMRC teaching has a positive impact on students' reading comprehension achievement (Oo et al., 2021).

RH<sub>17</sub>: Teachers are expected to see different kinds of instructional strengths and weaknesses in their instruction of different teaching strategies. And they can improve their teaching processes by learning from these instructional weaknesses (Ratminingsih et al., 2017).

## CHAPTER 5

### METHODS OF THE EMPIRICAL STUDIES

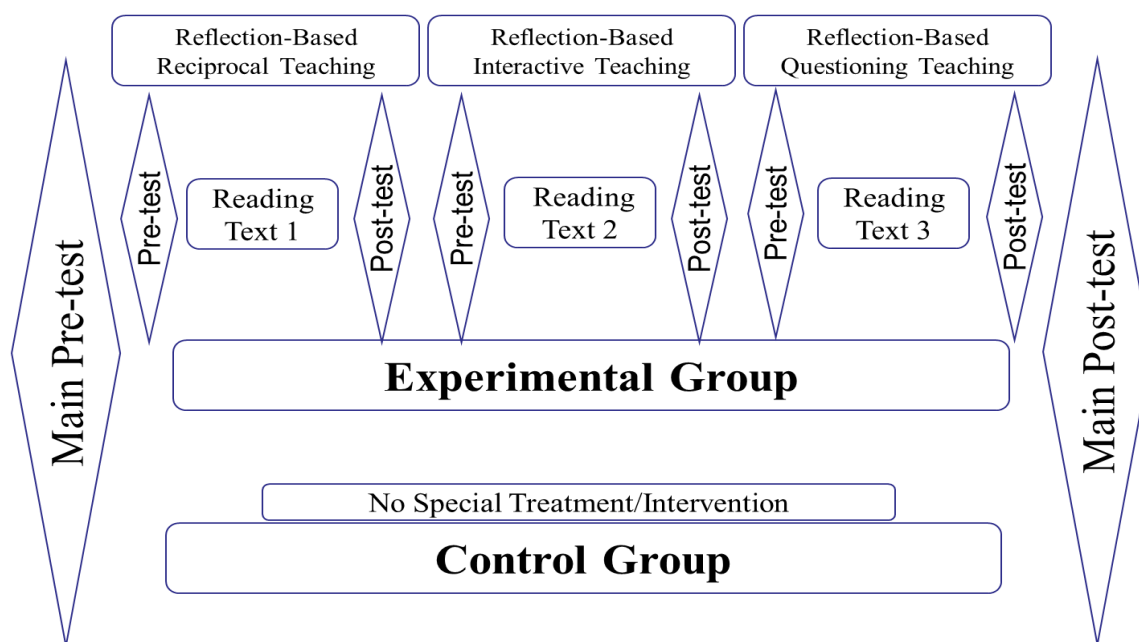
This chapter mainly expresses how the research is going to be conducted. Therefore, we focused on explaining the research design, the participants and how they are chosen, what kinds of instruments are used, what phases are involved in a research procedure, and finally, how to analyze the collected data for this study.

#### 5.1 Research Design

To conduct this study, we chose an interventionist study (quasi-experimental research design) and followed its procedures for 15 weeks (75 sessions). The general procedures of the tests for this study are as follows (see in Figure 5.1).

**Figure 5.1**

*General Procedures of the Tests in the Current Interventionist Study*



*Note.* No special treatment (traditional way, bottom-up approach)

#### 5.2 Participants

Based on Sedgwick's (2014) cluster randomized trial (see in Table 5.1), the participants are selected. They are 458 grade-10 students from Sagaing Township, Myanmar. Among them, 255 students are schoolgirls and 203 are schoolboys (aged from 15 to 16 years). We randomly assigned 228 students to the experimental group and 230 students to the control group. In addition, the students' English language teachers (five English teachers from five selected schools) participated in the research. These teachers taught the students three different reading

texts. The teachers, who taught the students in both experimental and control groups, were the same in all five schools. While these teachers were teaching the experimental group of students with the RTMRC approach in which reciprocal teaching, interactive teaching and questioning strategy are applied, another 10 subject deans/peer colleagues (two per each school) were also involved in this investigation as observers. Control groups were taught in a traditional way, with no RTMRC support (i.e., without revised exercises/questions, student questionnaires, or peer observations). The traditional teaching for the control group is commonly known as the bottom-up approach (Yang, 2018), which is currently used by Myanmar school teachers. It is a process of reconstructing the author’s intended meaning by identifying the letters and words and accumulating the text meaning from the smallest textual units at the “bottom” to the largest textual units at the “top” (Anyiendah et al., 2019). In total, in this cluster randomized trial study, the participants were 458 students, five English language teachers, and 10 observers (see in Table 5.2).

**Table 5.1**

*Cluster Randomized Trial Procedures*

<b>Participants</b>	<b>Cluster Randomization</b>	<b>Expected Sample Size</b>
Students	Population	About 1,000 grade-10 students in Sagaing township, Myanmar
	Groups (clusters)	10 basic education upper secondary schools in Sagaing township, Myanmar
	Obtaining a simple random sample	Obtaining 5 basic education upper secondary schools from the above clusters
	Sample	Every grade-10 student from the selected 5 basic education upper secondary schools

*Note.* Adapted from Sedgwick’s (2014) cluster sampling

**Table 5.2***Participants from Selected Schools*

No	Schools	Students (Experimental)			Students (Control)			Teachers	Observers
		Boys	Girls	Total	Boys	Girls	Total		
1	Upper Secondary School (1)	18	28	46	22	22	44	1	2
2	Upper Secondary School (2)	20	24	44	18	28	46	1	2
3	Upper Secondary School (3)	18	28	46	22	24	46	1	2
4	Upper Secondary School (Yan Naing)	22	23	45	21	24	45	1	2
5	Upper Secondary School (Practising)	19	28	47	23	26	49	1	2
<b>Total</b>		<b>97</b>	<b>131</b>	<b>228</b>	<b>106</b>	<b>124</b>	<b>230</b>	<b>5</b>	<b>10</b>

**5.3 Instruments**

Among the four essential lenses of Brookfield (2017); students' eyes, colleagues' observations, personal experiences, and theory, he exclaims that it is the *good* teaching if the teacher can use at least two reflective lenses (however, *excellent* if teachers can use all lenses). Therefore, in this dissertation, we used three main types of measuring instruments (pre- and post-tests, student questionnaire, and observation scheme) based on the Myanmar context. The detailed lesson plans were also provided to the five participating English teachers to assist them in their effective instruction using the RTMRC approach.

**5.3.1 Pre- and Post-tests**

We used four different types of pre- and post-tests for different sub-studies. These four types of pre- and post-tests were used to measure the effectiveness of different teaching approaches. We used the same concepts/contents with different types of tasks in both pre- and post-tests. The test questions were based on the content of the Grade-10 English text prescribed by the Ministry of Education, Myanmar. The items for all tests were constructed in accordance with Barrett's taxonomy of reading comprehension levels (literal, reorganizational, inferential, evaluative and synthesis) by the given points in a table of specifications (Surtantini, 2019).

***Pre- and post-tests for the reading text one:*** This instrument was used for the first part of the main study (for the investigation of the effectiveness of the RBRT teaching in students' reading comprehension). In this pre- and post-tests, there are a total of 23 items (literal comprehension: seven items; reorganizational comprehension: two items; inferential comprehension: five items; evaluative comprehension: five items; appreciative comprehension: four items) (see in APPENDIX A).

***Pre- and post-tests for the reading text two:*** For the second part of the main study (investigating the effectiveness of RBIT in students' reading comprehension), this instrument (pre- and post-tests) has 23 items; eight items for literal comprehension, two items for reorganizational comprehension, five items for inferential comprehension, five items for evaluative comprehension, and three items for appreciative comprehension (see in APPENDIX B).

***Pre- and post-tests for reading text three:*** For the third part of the main study (investigating the effectiveness of RBQA in students' reading comprehension), the pre- and post-tests are in the same content including 23 test questions: eight items for literal comprehension, two for reorganizational comprehension, five for inferential comprehension, five for evaluative comprehension, and three for appreciative comprehension (see in APPENDIX C).

***Pre- and post-tests for the whole main study:*** This instrument (pre- and post-tests) is for the combination of all three reading texts; one, two, and three. It is used to investigate the effectiveness of RTMRC on students' reading comprehension. It includes 27 reading comprehension questions; ten items for literal, two items for reorganizational, six items for inferential, five items for evaluative, and four items for appreciative comprehension questions (see in APPENDIX D).

### ***5.3.2 Student Questionnaire***

Teaching does not occur in a vacuum, but in a teacher's instructional class. Therefore, students' reading comprehension depends on some factors such as reader, strategy, task, and context (Snow, 2003). Accordingly, while giving the treatment with the RTMRC approach to the students, the teachers reflected on their instructional context (reader, strategy, text, and task) by using the questionnaire completed by the students according to their learning preferences related to the teachers' instruction. To be able to get the reliable, simple, and direct attitudes of the students, we use symmetric Likert scales of two dichotomies such as how many percentages of disagree or agree (without using neutral midpoint – *neither disagree nor agree*) (Joshi et al.,

2015). It had a four-point Likert scale (*strongly disagree, disagree, agree, strongly agree*) adapted from Richards and Lockhart's (2007) questionnaire. This questionnaire was used for reflecting on the instructional context (inter-related with the students, the teacher's strategy, the reading text, and the tasks/activities they had students do in the class) as defined by Richards and Lockhart (2007). For the cross-cultural use, this questionnaire was already translated into the Burmese language and confirmed by Burmese language experts. There were a total of 17 items (five items for reflection on the 'reader' factor, five items for 'strategy' factor, 4 items for 'text' factor, 3 items for 'task' factor) in this questionnaire (e.g., *I like the English teacher using the relevant questions while teaching the reading text; and I like the reading text because it is easy to catch the main ideas to summarize it*) (see in APPENDIX E).

### **5.3.3 Observation Scheme**

To help the English language teachers' reflection on the instructional context, peer colleagues (ten observers) also observed the teachers' instructional process by using the observation scheme originated from the one by Richards and Lockhart (2007). The observation scheme had a four-point Likert scale (very poor, poor, good, excellent) involving 14 items with the availability of open comments (see in APPENDIX F).

### **5.3.4 Lesson Plans**

In this research method, we provided the participating English teachers with detailed lesson plans (how to teach) for following the different teaching approaches (reciprocal teaching, interactive teaching, and questioning) of the study based on the RTMRC framework. For teaching the English reading text (a total of 75 sessions) for the experimental groups, these different lesson plans were drawn up in detail based on the conceptual frameworks about these different teaching approaches under the RTMRC teaching. In each lesson plan, it was clearly described how to perform the teaching approaches with the exact time limits for doing the steps of different teaching approaches. These steps needed different time limits based on the lengths of reading texts (see sample lesson plans in APPENDIX G).

## **5.4 Procedures**

There are three phases to conduct the whole research, the first phase is developing the theoretical reflective teaching model for reading comprehension (RTMRC) which is appropriate with the Myanmar context. The second phase is the development of the instruments and the content validation with some experts. In this phase, pilot study was also conducted to



confirm the construct validity of the instruments, and we planned and modified them for the main study.

The third phase is the main study to investigate the effectiveness of RTMRC with a larger sample size. In this phase, we selected five sample schools from Myanmar by using cluster randomized trial (Table 5.1 above; Sedgwick, 2014). The intact groups in each school were randomly assigned to the experimental group and the control group. First, we administered a pre-test to detect any initial differences between the experimental and the control groups to see if the two groups were essentially the same in their levels of reading comprehension before the treatment. Second, as the treatment, the experimental group participated in the developmental sessions and was taught using the RTMRC approach. The developmental period took fifteen weeks and consisted of 75 sessions (45 mins each). The control group did not have any special developmental sessions; these students learned in the traditional way (by teacher's bottom-up approach without using student questionnaire, peer observations, and reflective questions from the text). During the treatment period of fifteen weeks for each experimental group, five English language teachers used the three teaching strategies (reciprocal teaching, interactive teaching, and questioning) by following our provided lesson plans. The students were given related activities with these three teaching strategies. After these students' activities, the teachers revised the text with reflective questions and exercises to clarify any confusion the students had related to information gained from the text. Then, following Brookfield (2017), the teacher's indirect reflection was done from two different perspectives, (1) from the point of view of the students, by asking them to fill the questionnaire to describe their learning preferences, and (2) from an observer's point of view, by requesting the colleagues to observe the teacher's instructional process in the classroom. For three reading texts, the student questionnaire was used fifteen times (five times for each teaching strategy) for the experimental groups during the treatment period but not for the control groups. To improve the reflective action of English language teachers, the teacher uses the observers' eyes (by the observation scheme) to observe their teaching-learning process fifteen times (randomly during three texts each) during the intervention period of the experimental group. In this research, observation is just the way of gathering information by the teacher with the use of formal evaluation form (Richards & Lockhart, 2007). Therefore, the data from the evaluation form can help the teacher's self-decision and improve his teaching (without discussing with the observers). Third, at the end of the treatment period, both groups completed the post-test. The research phases and their related studies are also shown in Table 5.3.

**Table 5.3***Research Phases and Related Studies*

<b>Phases</b>	<b>Studies</b>	<b>Titles</b>	<b>Time</b>
Phase one	Model development	The Theoretical development of Reflective Teaching Model for Reading Comprehension in English Language Teaching	February – June, 2019
Phase two	Pilot study	Pilot Testing – Validating the Instruments for the Reflective Teaching Model for Reading Comprehension in English Language Teaching	July 1 – August 3, 2019
		<b><i>Part one</i></b>	
		The Effectiveness of the Reflection-Based Reciprocal Teaching Approach on Students' Reading Comprehension Achievement	1 <sup>st</sup> June – 3 <sup>rd</sup> July, 2020
		<b><i>Part two</i></b>	
Phase three	Main study	The Effectiveness of the Reflection-Based Interactive Teaching Approach on Students' Reading Comprehension Achievement	6 <sup>th</sup> July – 7 <sup>th</sup> August, 2020
		<b><i>Part three</i></b>	
		The Effectiveness of the Reflection-Based Questioning Approach on Students' Reading Comprehension Achievement	10 <sup>th</sup> August – 11 <sup>th</sup> September, 2020
		<b><i>Overall</i></b>	
		Effects of the Reflective Teaching Model for Reading Comprehension (RTMRC) on Students' Reading Comprehension Achievement	1 <sup>st</sup> June – 11 <sup>th</sup> August, 2020

**5.5 Data Analysis**

In this dissertation, different types of data analysis are used for different purposes.

**5.5.1 Exploratory Data Analysis (EDA)**

Exploratory Data Analysis (EDA) is an essential or first step for any data analysis. It was used in this study to see whether there are problems in the data such as outliers, non-normal distributions, problems with coding, missing values, and errors inputting the data (Komorowski et al., 2016). For EDA analysis, descriptive statistics (mean, median, standard deviation, and

so on), frequency distribution histograms, boxplots were used in this study for investigating the face validity results and frequency distributions of tests (Leech et al., 2005).

After the descriptive statistical analysis, we applied inferential statistics, such as paired samples *t*-tests, independent samples *t*-tests, one-way ANOVA to inquire the effectiveness of the experimental treatment of this study (Marshall & Jonker, 2011). To compare the experimental and control groups in this study, two different *t*-tests were used (independent and paired samples *t*-tests). The effect size was also measured by Cohen's *d*. To quantify the size of experimental effects between independent samples and paired samples, Kotrlik et al. (2011) suggested the use of Cohen's *d* ( $d = .3$ , small;  $d = .5$ , medium, and  $d = .8$ , large, according to Cohen, 1988). We followed these suggestions.

### **5.5.2 Exploratory Factor Analysis (EFA)**

After exploring the data like the above mentioned, the next analysis step was the use of Exploratory Factor Analysis (EFA) to investigate which items belong to which factor in the instruments (Watkins, 2018). This EFA was used for exploring the content validity of the instruments in this study. The items with factor loadings which are lower than .4 were suppressed to validate its factor contents in the instruments.

### **5.5.3 Confirmatory Factor Analysis (CFA)**

Confirmatory Factor Analysis (CFA) is theory-driven and aims to determine the ability of a pre-defined factor model (specified on the basis of theory) to fit an observed data set (Shek & Yu, 2014). Therefore, to confirm the pre-determined theoretical data in the instruments with the collected data sets from the experimental testing, the construct validity of the instruments was measured in this study. According to Gliner et al. (2017), construct validity is based on two types of validity measures: convergent and discriminant. They also mentioned three types of reliability measures for addressing convergent validity (measuring how the theory is related to the practice): (1) internal consistency reliability (Cronbach's alpha), (2) average variance extracted, and (3) composite reliability. For internal consistency reliability, it is recommended that Cronbach's alpha value be  $>.60$  (Gliner et al., 2017). Kline (2015) recommended that the value of the composite reliability (CR) should be  $>.70$ . In the case of the average variance extracted (AVE), it should be  $>.50$ , according to Afari (2013). For the discriminant validity of the instruments (measuring how the supposed unrelated theory is unrelated to the practice), we compared the square root of the AVE and the inter-construct correlation in the component correlation matrix of SPSS. Kline (2015) advised that if the value of the square root of the AVE

is higher than the values of the inter-construct correlation among the components, its discriminant validity is acceptable.

#### **5.5.4 Rasch Analysis**

In this research, we used different types of tests to investigate the effectiveness of experimental treatments. Therefore, the item response theory (Rasch analysis) was also used, and the Quest program was run to determine the estimates for both learners' ability parameters and the levels of item difficulty.

#### **5.5.5 Structural Equation Modeling (SEM)**

Structural equation modeling (SEM) was used with the AMOS 23 statistical package to measure the association between the teacher's reflection and the students' reading comprehension achievement. Therefore, two associations (the association between the student questionnaire and the students' achievement; and the association between the observation scheme and the students' achievement) were investigated in this study. The post-test scores were used as the students' achievement. Regarding the connection between the student questionnaire and the students' achievement, there were some fit indices to show how well the model fit with the data. The following goodness-of-fit indices were used to justify the model fit: standardized root mean square residual (SRMR) and Goodness Fit Index (GFI) were used as the absolute fit index, the comparative fit index (CFI) was used to analyze the model's goodness of fit, and the root mean square error of estimation (RMSEA) was utilized for the parsimonious fit index (Kline, 2011). The SRMR is acceptable at  $<.05$  (Zhang & Zhang, 2013). The levels of CFI range from 0 to 1 ( $>.90$  is acceptable, and  $>.95$  is good) (Byrne, 2010), and RMSEA values at  $<.08$  ( $<.05$  is acceptable) are good (Habók & Magyar, 2018).

## **CHAPTER 6**

### **EMPIRICAL STUDIES**

In this chapter, there are two main parts (pilot study and main study) to fulfill the research questions and hypotheses while investigating the effectiveness of the Reflective Teaching Model for Reading Comprehension (RTMRC) in students' reading comprehension achievement. The first study is about the pilot study for instrument validation. The second one is the main study about the investigation of the RTMRC effectiveness. While conducting the main study, we used three teaching strategies; reciprocal, interactive, and questioning in the framework of RTMRC. Therefore, these three sub-studies investigating the effectiveness of reflection-based reciprocal teaching (RBRT), reflection-based interactive teaching (RBIT), and reflection-based questioning approach (RBQA) are presented in the first three sessions, and followed by the overall study of the RTMRC's effectiveness in the last session of the main study.

#### **6.1 Pilot Study**

##### **Validating the Instruments for the Reflective Teaching Model for Reading Comprehension in English Language Teaching**

In this study, there are two main parts: content validation of the instruments (pre- and post-tests, student questionnaire and observation scheme, which are going to be used in the main study) and their construct validation for teaching with RTMRC.

###### ***6.1.1 Introduction***

Validity is an essential property since assessing validity answers the question of whether the instrument measures exactly what it proposes to measure (Manzotti et al., 2021). In social studies, there are different types of instruments, which are self-developed, adapted, and adopted. For the self-developed or huge adapted instruments, content validity is an essential part to be taken into account, and it can be done by the experts' judgments (Grant & Davis, 1997). A content validity study can provide information on the representativeness and clarity of each item and even a preliminary analysis of the factorial validity (Rubio et al., 2003). As for the case of adapted instruments and directed copied instruments, cross-cultural validation is important and can be done by translating into the respective target languages and confirming their construct validity by pilot testing (Tehrani-Doost et al., 2020). In psychological studies, Wu and Molnár, (2018) also mentioned cross-cultural validation as a generally used method, a simple translation of the instructions to the target language. Therefore, in this sub-study, for

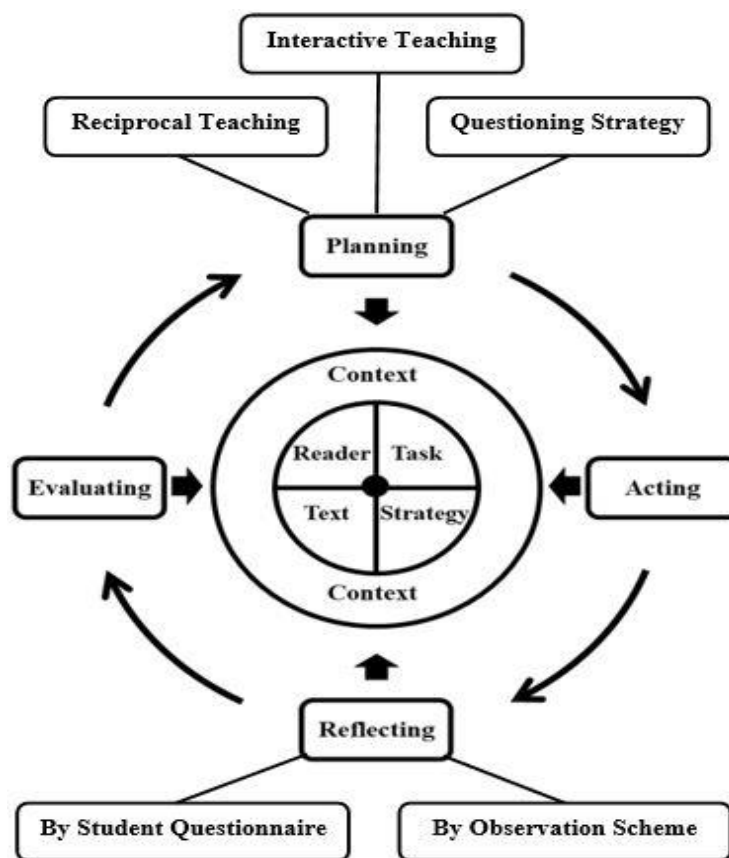
cross-cultural validation, the instrument (student questionnaire) had already been translated into the target language (Burmese). And we are going to test these instruments in this pilot study.

### 6.1.2 Brief Conceptual Framework

To validate the instruments in this study, we used the previously developed RTMRC as the conceptual framework for this sub-study. Its experimental treatment procedures are described in Figure 6.1.1.

**Figure 6.1.1**

*Treatment Procedures with Reflective Teaching Model for Reading Comprehension*



*Note.* Adapted from Oo and Habók (2020, p. 133)

In the *planning* step, the teacher is going to use three teaching strategies; reciprocal teaching, interactive teaching, and questioning. Based on these teaching strategies, the teacher plans whom to teach (reader), how to teach (strategy), what to teach (text) and what kinds of activities are going to give the students (task) in detail. In the *acting* step, the teacher teaches the students based on the plans he made before. In the step of *reflecting*, the teacher reflects his instructional events (reader, strategy, text, and task) by the two reflective tools; student

questionnaire and observation scheme suggested by Brookfield (2017). And the teacher is going to give some reflective questions to the students so that they can reflect on their own learning. In the *evaluating* step, the teacher will assess his reflected results that come from two reflective tools and reflective exercises, and he/she assesses the students' achievement in reading comprehension. If necessary to modify his instructional events, he/she will do them and create better instructions in later sessions.

### **6.1.3 Aim and Research Questions (RQ<sub>1</sub> – RQ<sub>3</sub>)**

In this pilot study, we aim to validate the instruments which are going to be used in the main study to investigate the effectiveness of RTMRC on students' reading comprehension achievement. Therefore, this sub-study sets up these three research questions.

RQ<sub>1</sub>: What is the content validity of the instruments?

RQ<sub>2</sub>: How well do the reading tests measure the students' achievement in reading comprehension in ELT?

RQ<sub>3</sub>: To what extent does the student questionnaire measure the factors (reader, strategy, text, and task) that affect a teacher's instructional event to reading comprehension?

### **6.1.4 Method**

#### *Research Design, Participants and Instruments*

A quasi-experimental research design was used in this pilot study for five weeks – 25 sessions (from 1<sup>st</sup> July – 3<sup>rd</sup> August, 2019). By the Cluster sampling, 83 grade-10 students (aged 15–16 years) in Myanmar were chosen as participants and were randomly assigned to an experimental group (N = 42) or a control group (N = 41). We used three main types of instruments in this study. They were pre- and post-tests (see in APPENDIX D), student questionnaire (see in APPENDIX E), and observation scheme (see in APPENDIX F) which were explained in detail in Chapter 5.

#### *Procedure*

First, we administered the pre-test to detect the initial difference between the two sub-samples (experimental and control groups). After the first measurement with pre-test, the experimental group participated in the developmental sessions using the RTMRC. The control group was not given this treatment. During the treatment period, three teaching strategies, namely, reciprocal teaching, interactive teaching, and questioning, were used with the RTMRC (see in Figure 6.1.1). The students completed the student questionnaire three times during the treatment period, after the completion of the use of each instructional strategy. The objective

of the questionnaire was to help teachers reflect on the reader, strategy, text, and task, thereby increasing reflection and awareness. Two observers also randomly observed the teacher's instruction with the use of the observation scheme (three times). At the very end of the treatment period, a post-test was administered to both groups to compare their achievement.

### **6.1.5 Findings**

#### *Content Validity of the Instruments*

*Addressing RQ<sub>1</sub>: What is the content validity of the instruments?*

The content validity is often called 'definition validity or logical validity' (Newman et al., 2013) or 'intrinsic validity or representative validity or sampling validity' (Services, 2003), and it is of great importance for the instrument development to address whether the items on the instrument can adequately assess the domains of the content, which are desired to be measured, and so, the instruments need the judgments (Rubio et al., 2003). It is also an essential requirement for validating the instrument, and it describes whether the instrument could make an adequate measure of the desired content (Taherdoost, 2016). We used the content validity index (CVI), a widely used method, to measure the content validity of the instruments. Although Polit and Beck (2006) suggested that at least three content experts are needed to evaluate the content validity, we asked for help from the six content experts from the field of English language teaching to examine the content validity for instruments in this study. The CVI for each item was calculated "by counting the number of experts who rated the item as three or four and dividing that number by the total number of experts" (Rubio et al., 2003, p. 97). For the CVI analysis, a four-point scale (not relevant, somewhat relevant, quite relevant, and highly relevant) was used by the six content experts to rate the relevance of each item from the instruments (Polit et al., 2007). The CVI value is acceptable if it is .80 and above (Newman et al., 2013). The contents of three instruments for this study were valid after deleting some items (three items from the pre- and post-tests, five items from the student questionnaire, and one item from the observation scheme) which were lower than .80 (see in Table 6.1.1).



**Table 6.1.1***Items of the Instruments Rated by Experts for Content Validity*

Instruments	Factors/ Components	Item- Numbers	Experts						CVI ( $\geq .80$ )*
			1	2	3	4	5	6	
Pre- and post- tests	Literal	I (B). 1	4	3	4	3	4	4	6/6 = 1.00
		I (B). 2	4	4	4	4	4	4	6/6 = 1.00
		I (B). 3	3	4	2	4	4	4	5/6 = .83
		I (B). 4	4	4	3	4	4	4	6/6 = 1.00
		I (B). 5	4	3	2	4	4	4	5/6 = .83
		I (B). 6	3	3	3	4	4	4	6/6 = 1.00
		I (C). 2	4	3	4	3	4	3	6/6 = 1.00
		I (C). 4	4	4	3	3	4	2	5/6 = .83
		I (C). 5	3	4	4	4	4	3	6/6 = 1.00
	Reorganizational	III	4	4	4	4	4	4	6/6 = 1.00
		IV	4	3	4	4	4	4	6/6 = 1.00
	Inferential	V	4	4	4	4	4	4	6/6 = 1.00
		I (A). 1	4	3	4	4	4	4	6/6 = 1.00
		I (A). 2	4	3	3	4	4	4	6/6 = 1.00
		I (A). 3	3	3	4	4	4	4	6/6 = 1.00
		I (A). 4	2	3	3	4	4	3	5/6 = .83
		I (A). 5	4	4	4	3	3	2	5/6 = .83
	Evaluative	I (A). 6	3	4	4	4	3	3	6/6 = 1.00
		I (C). 1	4	4	3	4	3	4	6/6 = 1.00
I (C). 3		3	4	2	4	4	4	5/6 = .83	
I (C). 6		3	4	2	4	4	4	5/6 = .83	
II. 3		4	3	4	3	4	4	6/6 = 1.00	
Appreciative	II. 5	4	3	3	3	4	4	6/6 = 1.00	
	II. 1	4	2	4	3	3	3	5/6 = .83	
	II. 2	3	3	3	3	2	3	5/6 = .83	
	II. 4	3	4	3	3	4	4	6/6 = 1.00	
Student Questionnaire	Reader	II. 6	4	2	3	3	3	3	5/6 = .83
		1	4	4	4	3	3	2	5/6 = .83
		2	3	4	3	4	2	3	5/6 = .83
		3	3	4	4	4	2	3	5/6 = .83
		4	3	4	4	4	4	4	6/6 = 1.00
	Strategy	5	3	2	4	4	3	4	5/6 = .83
		6	4	3	4	3	3	3	6/6 = 1.00
		7	4	4	3	4	3	3	6/6 = 1.00

		8	4	4	3	3	2	3	5/6 = .83
		9	4	4	3	2	4	3	5/6 = .83
		10	3	4	3	4	4	3	6/6 = 1.00
		11	4	4	3	3	4	4	6/6 = 1.00
		12	4	4	3	3	3	4	6/6 = 1.00
	Text	13	4	3	3	2	3	4	5/6 = .83
		14	4	3	3	4	4	4	6/6 = 1.00
		15	3	2	4	4	4	3	5/6 = .83
		16	4	4	3	4	4	4	6/6 = 1.00
		17	3	4	3	4	4	4	6/6 = 1.00
	Task	18	3	3	3	4	4	4	6/6 = 1.00
		19	4	3	4	4	3	2	5/6 = .83
		20	3	4	4	4	4	3	6/6 = 1.00
		1	4	4	3	3	2	3	5/6 = .83
		2	3	4	3	3	3	3	6/6 = 1.00
		3	3	4	3	3	3	4	6/6 = 1.00
		4	3	4	4	3	3	3	6/6 = 1.00
		5	3	4	3	2	3	3	5/6 = .83
		6	3	3	4	3	3	3	6/6 = 1.00
Observation		7	3	3	3	3	3	3	6/6 = 1.00
Scheme	Instructional Process	8	4	4	2	3	4	4	5/6 = .80
		9	3	4	3	3	4	4	6/6 = 1.00
		10	3	3	3	3	4	4	6/6 = 1.00
		11	3	3	3	3	4	2	5/6 = .83
		12	4	3	4	4	4	4	6/6 = 1.00
		13	4	3	4	3	4	4	6/6 = 1.00
		14	4	2	4	4	4	3	5/6 = .83

*Note.* \* Recommended value, 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant

### *Construct Validity of the Test*

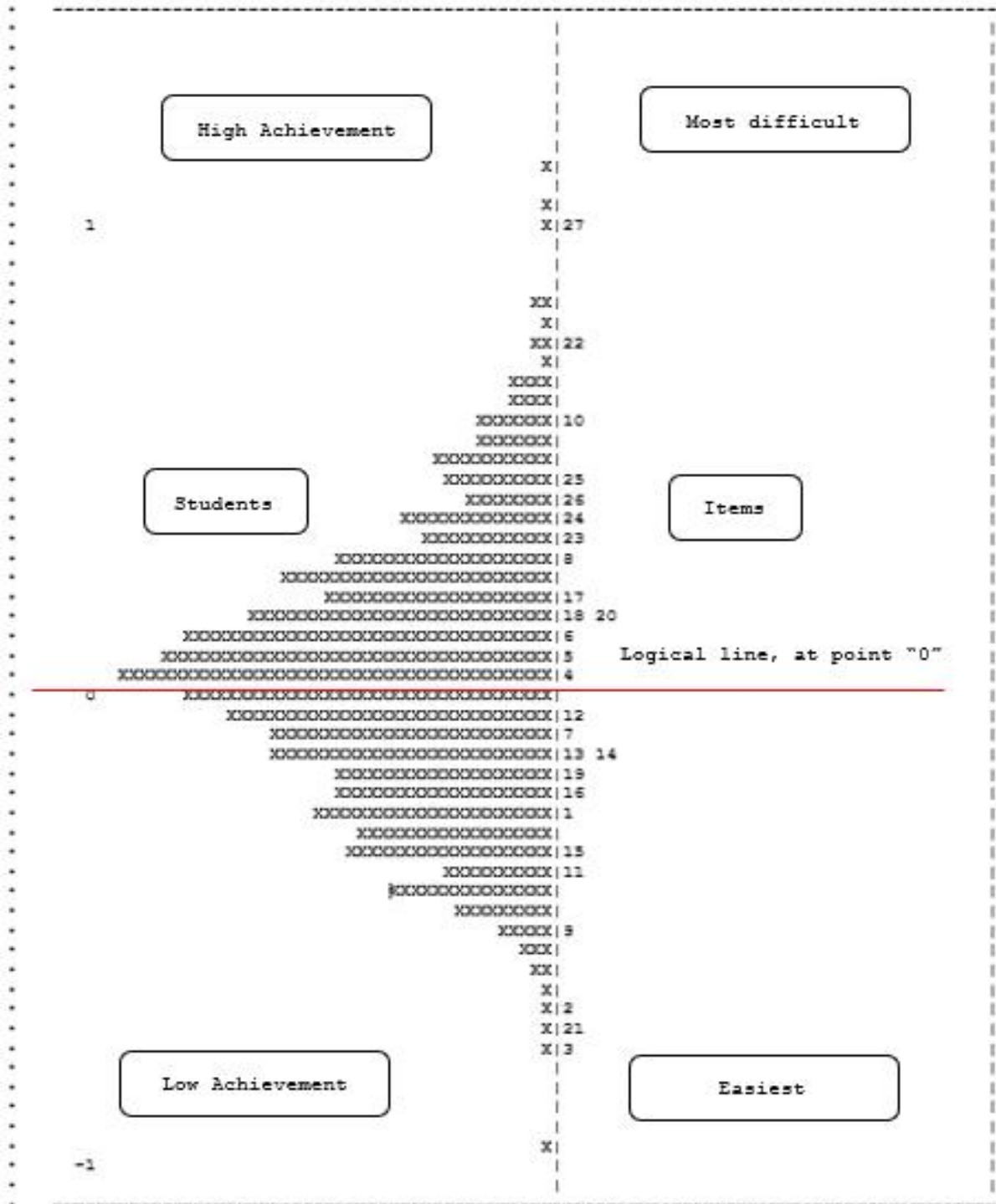
*Addressing RQ<sub>2</sub>: How well do the reading tests measure the students' achievement in reading comprehension in ELT?*

To investigate this research question, it is important to discriminate the items that are suitable for testing student achievement and determine which items are the most difficult or the easiest for the students. We used item-response theory (Rasch analysis) and ran the Quest programme to calculate estimates for both the learner ability parameters and the item difficulty levels (based on the post-test scores of the students from both experimental and control groups). The

distribution between the students' ability parameters and the item difficulty levels is presented in Figure 6.1.2.

**Figure 6.1.2**

*Person-item Map Indicating Person Ability Levels and Item Difficulties*



Note. Each 'X' represents 0.2 cases

The left-hand side of the graph shows the ability parameters of the students, and the right-hand side indicates item difficulty. In Figure 6.1.2, the students had higher achievement on items of moderate difficulty, i.e. those which are neither too difficult nor too easy. Further, item 27 (requiring a paragraph understanding and reorganizational knowledge) was the most difficult item, and items 2, 3, and 21 (the inferential and evaluative comprehension questions), were the easiest ones. However, these outliers were not eliminated in pursuit of construct validity, as the students' achievement levels were almost at zero, the logical number. On the whole, the test items almost showed a normal distribution. Therefore, the test items showed adjustment to the level of the students' knowledge, and this type of test can be used to measure student achievement.

With the help of IBM SPSS Statistics 23.0, the convergent and discriminant validities for the test items were also measured. For convergent validity, Fornell and Larcker (1981) suggested three ways of evaluating this: (1) the item reliability for each measure, (2) the composite reliability (CR; measured with McDonald's coefficient omega) and (3) the average variance extracted (AVE). The factor loading for an item can assess its reliability on the underlying construct. According to Hair et al. (1998), if the factor loading of an item is above .50, the item is significant. In this test, the factor loadings for all of the items were between .62 and .98. For the CR of the items, Yılmaz and Kabak (2021) recommend that their value should be higher than .70. The CR values for all of the components were higher than .70. All of the AVE values were also higher than .50. For the internal consistency reliability, Cronbach's alpha values of almost all factors are greater than .60, except for the factor of reorganizational questions. The reason for low reliability in these reorganizational questions may be the high level of items difficulty. These reorganizational questions are more difficult than other questions items because the students need to interpret the text meaning and construct/organize their own sentences based on their understanding. However, the overall alpha value is .72. Therefore, the internal consistency reliability was also confirmed. These results (factor loadings, AVE, CR and Cronbach's alpha values) are presented in Table 6.1.2. Therefore, convergent validity was achieved in this study.

**Table 6.1.2***Convergent Validity Measures of the Test*

<b>Component</b>	<b>Items</b>	<b>Factor loadings</b>	<b>AVE (&gt;.50)*</b>	<b>CR (&gt;.70)*</b>	<b>Cronbach's Alpha (&gt;.60)*</b>
Literal comprehension questions	I (B). 1	.98	.50	.89	.78
	I (B). 2	.73			
	I (B). 3	.86			
	I (B). 4	.77			
	I (B). 5	.79			
	I (B). 6	.75			
	I (C). 2	.64			
	I (C). 4	.69			
	I (C). 5	.79			
Reorganizational comprehension questions	III	.87	.66	.79	.45
	IV	.62			
Inferential comprehension questions	V	.98	.69	.93	.84
	I (A). 1	.84			
	I (A). 2	.73			
	I (A). 3	.84			
	I (A). 4	.85			
	I (A). 5	.73			
Evaluative comprehension questions	I (A). 6	.97	.65	.90	.76
	I (C). 1	.83			
	I (C). 3	.87			
	I (C). 6	.62			
	II. 3	.70			
Appreciative comprehension questions	II. 5	.98	.76	.92	.63
	II. 1	.96			
	II. 2	.94			
	II. 4	.80			
Total	II. 6	.77	.67	.98	.72
	27 items				

*Note.* AVE (average variance extracted); CR (composite reliability)

Discriminant validity was measured using the heterotrait–monotrait (HTMT) ratio for the correlations. According to Kline (2011), a test has significant validity if the HTMT ratios of the components are less than .85. In this study, the HTMT ratios for the correlations of the five

main components; literal comprehension, reorganizational comprehension, inferential comprehension, evaluative comprehension, and appreciative comprehension questions, are shown in Table 6.1.3. All of the construct correlation values were less than .85. Therefore, discriminant validity was confirmed. Based on the above measures, the reading test is a good construct to measure students' achievement of reading comprehension in ELT.

**Table 6.1.3**

*HTMT Ratios of the Correlations of the Constructs (Discriminant Validity of the Test)*

Construct	1	2	3	4	5
1. Literal questions	1.00	.76	.63	.65	.58
2. Reorganizational questions		1.00	.65	.21	.35
3. Inferential questions			1.00	.52	.58
4. Evaluative questions				1.00	.69
5. Appreciative questions					1.00

*Note.* HTMT (heterotrait-monotrait) ratio = Average heterotrait-heteromethod correlations / Square root of (average monotrait-heteromethod correlation of (first construct) × (second construct))

*Construct Validity of the Student Questionnaire*

*Addressing RQ<sub>3</sub>: To what extent does the student questionnaire measure the factors (reader, strategy, text, and task) that affect a teacher's instructional event to reading comprehension?*

To answer this research question, we performed the following analyses on the questionnaire: exploratory factor analysis (EFA), and confirmatory factor analysis (CFA) by the structural equation modelling (SEM).

*Exploratory factor analysis (EFA)*

EFA aims to investigate the factors that influence students' performance (Şeker, 2013). In this study, it was adopted to analyse these factors and determine whether the questionnaire can measure the main factors of the RTMRC; reader, strategy, text, and task. After applying the EFA, three items were eliminated from the first version of the questionnaire for failing to meet the minimum criteria of not loading above .3 on any factor, loading less than .4 on any factor, and no cross-loading of .3 or above (Williams et al., 2010). After the application of these criteria, we had four main components, totalling 17 items: reflection on the reader (five items), reflection on the strategy (five items), reflection on the text (four items), and reflection on the task (three items). All of these were chosen based on their factor loadings which were all greater

than .40. Finally, three items were eliminated because item 12, *I feel bored if the teacher asks me to copy the text from the board*, had loadings of .46 and .69 for components 3 and 5. Item 13, *while the English teacher is explaining something, I understand it easily; however, it is difficult to do the reading comprehension task*, was also deleted because it also had factor loadings .57 and .42 for components 1 and 4. Finally, item 20, *the teacher gives me enough time to comprehend the reading passages*, was also deleted because its factor loadings were too low. These results are shown in Table 6.1.4.

**Table 6.1.4**

*Factor Loadings from the Student Questionnaire*

Items	Components			
	Reflection on reader	Reflection on strategy	Reflection on text	Reflection on task
7. I like the English teacher to explain everything related to the reading tasks.	.826			
3. I feel ashamed when my English teacher asks me to read the English text out loud alone.	.765			
16. I like the English teacher to use the blackboard/chalkboard while teaching reading comprehension.	.712			
17. When I don't understand something while reading the English text, I like to guess the meaning by connecting with other related words.	.693			
4. I do better at reading in English when I work with others.	.510			
19. I like the reading techniques the English teacher uses because they help me remember the vocabulary.		.889		
10. I like the English teacher using the relevant questions while teaching the reading text.		.772		
15. I like the strategy the English teacher uses in teaching the reading passages.		.729		
1. I like the English teacher's good classroom management.		.669		
5. I can actively participate in learning reading comprehension because I hear the English teacher's voice well.		.560		
8. I like the reading text because it is very interesting when the teacher provides us with the reflective questions.			.843	
6. I like the reading text because it is easy to take out the questions from the reading passages to discuss.			.785	
2. I like the reading text because it is easy to catch the main ideas to summarize it.			.751	
14. The reading text looks difficult to understand; however, I like it because it is easy to answer reading comprehension questions after the teacher's explanation.			.713	
9. I like learning by doing tasks (e.g., taking notes, underlining, highlighting) related to reading texts.				.785

11. I like to participate in the collaborative activities of learning reading comprehension.	.742
18. I like the teacher giving us various types of reading comprehension exercises.	.576

*Note.* Factor loadings <.4 are suppressed.

#### *Confirmatory factor analysis (CFA)*

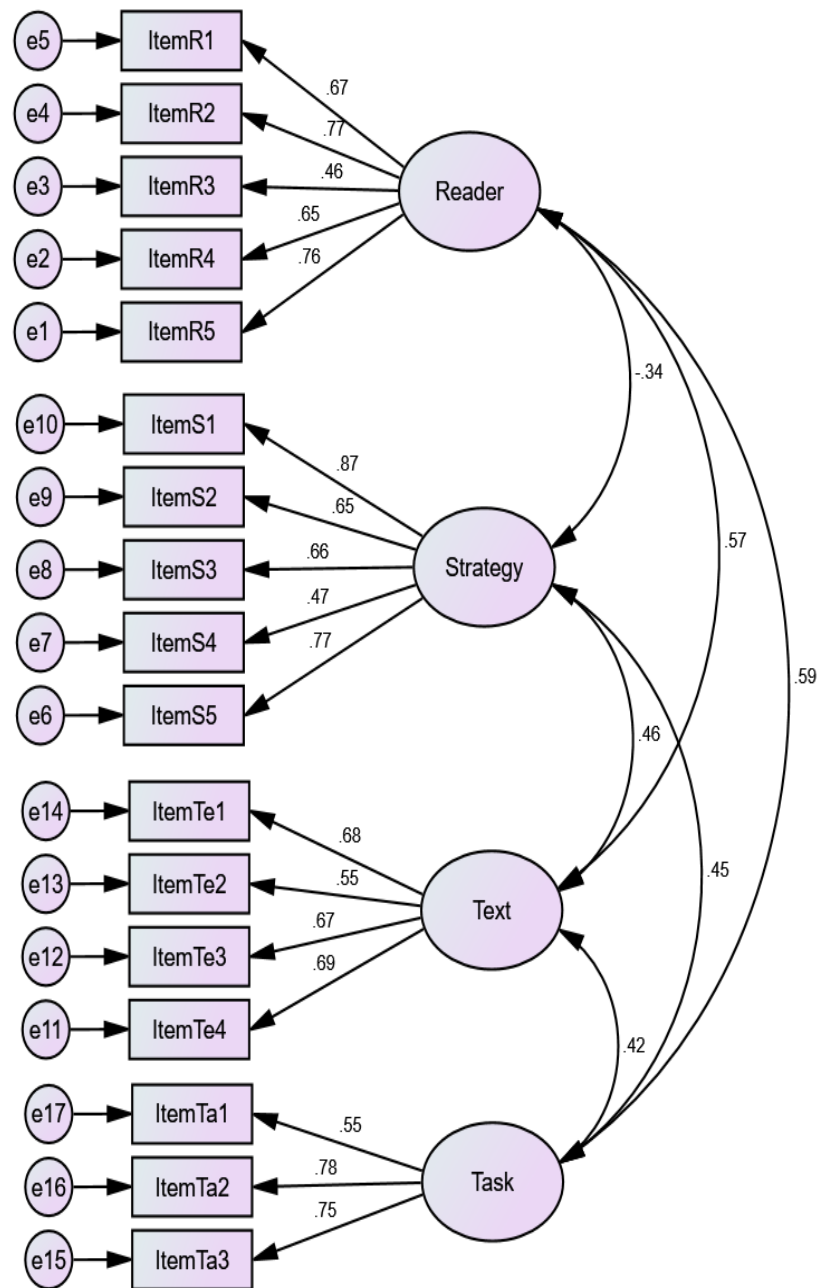
CFA was also used through the structural equation modelling to establish how closely the factors of reader, strategy, text, and task were related to one another. In the use of CFA, Nami and Koizumi (2013) suggest that non-significant chi-square ( $\chi^2$ ) and positive degrees of freedom - *df* (one or above) should be used to indicate a good fit. In this study, the chi-square was non-significant ( $\chi^2 = 134.88$ ,  $p = .08$ ,  $df = 113$ ). Therefore, the questionnaire could be investigated with regard to the fit indices. The following goodness-of-fit indices were employed to evaluate model fit: Goodness-of-fit index (GFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). The values for CFI and GFI range from 0 to 1, and larger values confirm a better fit. Values larger than .90 show an acceptable model fit. The RMSEA also indicates model fit and also ranges from 0 to 1, but values .08 or less show a good model fit (Kline, 2011). In this study, the values for these goodness-of-fit indices (GFI = 1.00, CFI = .94, and RMSEA = .06) were acceptable, indicating that the CFA model was well-fitted.

In this CFA model, the item-factor correlation coefficients, which ranged from .46 to .87, are shown in Figure (6.1.3). According to Kline (2005), these values are adequate if they are >.30. Therefore, the items and factors are closely related to one another for developing a good construct for the student questionnaire.



**Figure 6.1.3**

*CFA Model for the Questionnaire*



*Note.* N = 126 (three times of reflection)

*Reliability and Validity*

The IBM SPSS Statistics 23.0 was used to measure the reliabilities, means, standard deviations, and correlations for the validity investigation of this instrument. Internal consistency reliability (measured with Cronbach's alpha) and CR were estimated to evaluate reliability. The internal consistency reliability of the first three factors (reflection on reader, strategy, text) was greater

than .70; however, for the last factor, reflection on the task, internal reliability was .62. According to Gliner et al. (2017), if the value of Cronbach's alpha is greater than .60, this factor also has acceptable reliability. In addition, the CR values for all of the factors or constructs were greater than .70 (Table 6.1.5). The value found for the Kaiser-Meyer-Olkin (KMO) test showed the suitability of the data to factor analysis. And we found a very good value (KMO = .72) for the questionnaire (according to Gleaner et al., 2017, >.5 is acceptable, >.7 is good). Therefore, the influential factors for the questionnaire were considered suitable for carrying out further analysis to measure the reliability of the students' reading performance.

Construct validity was also examined to ascertain whether the construct of the questionnaire behaved in the way predicted by the theories noted above. The convergent validities and discriminant validities were tested to establish the construct validity of the factors. According to Fornell and Larcker (1981) and Habók and Magyar (2018), factors in the same construct are confirmed if the AVE value is larger than .50 and the CR value is larger than .70. In the new influencing factors, reader, strategy, text, and task, all AVE values were higher than .50 (except for the 'text' factor) and their CR values were also higher than .70 (Table 6.1.5). Therefore, convergent validity was confirmed.

**Table 6.1.5**

*Convergent Validity Measures of the Student Questionnaire*

<b>Factors</b>	<b>No. of items</b>	<b>Cronbach's alpha (&gt;.70)*</b>	<b>Average Variance Extracted (&gt;.50)*</b>	<b>Composite Reliability (&gt;.70)*</b>
Reader	5	.79	.50	.83
Strategy	5	.77	.51	.84
Text	4	.84	.59	.85
Task	3	.62	.46	.71
Total	17	.74	.52	.94

*Note.* \*Shows an acceptable level of reliability or validity

According to Fornell and Larcker (1981), discriminant validity is established if the values of the square root for AVE are greater than the inter-construct correlations of the component correlation matrix. For this questionnaire, all of the values of the square root of AVE were higher than the inter-construct correlations of the component correlations matrix. Thus, the questionnaire also had good discriminant validity (Table 6.1.6).

**Table 6.1.6***Discriminant Validity Measures of the Student Questionnaire*

Component	Component correlation matrix				AVE	Square root of AVE
	Reader	Strategy	Text	Task		
Reader	1.00				.50	.70
Strategy	.15	1.00			.51	.71
Text	.21	.10	1.00		.59	.76
Task	.39	.11	.23	1.00	.46	.67

*Note.* AVE (average variance extracted)

Based on the convergent and discriminant validities described above, this questionnaire can be considered to be a valid construct for measuring the factors (reader, strategy, text, and task) that affect students' reading events. The EFA and CFA analyses also confirmed that the student questionnaire could measure the factors (reader, strategy, text, and task) that affect the students' reading events.

Using the two considerations above (findings from the test and the student questionnaire), it found a link between the responses to the students' achievement and student questionnaire, and a significant difference between the results of the experimental group (treated with the RTMRC) and the control group (without RTMRC treatment); it can also be clearly seen that student achievement was related to teacher reflectiveness. The student questionnaire is merely an additional tool to be used in the teacher's approach. The teacher's use of the RTMRC is the most important. Therefore, it can be concluded that the RTMRC with the use of a student questionnaire is an appropriate method for measuring student achievement in reading comprehension in ELT.

### **6.1.6 Discussion and Summarization**

In this sub-study, to investigate the effectiveness of the RTMRC teaching model, we adopted a quasi-experimental approach involving three main types of instruments, namely, pre- and post-tests, student questionnaire, and observation scheme and, we validated them in different ways.

For the pre-test and post-test, the same content was used with different question sets. Each test had 27 items after the judgment of content experts. In the analysis, we confirmed the validity of the tests with item-response theory. Discrimination analysis of the items showed that one item (item 27) was seen to be the most difficult and three items (2, 3, and 21) were

seen to be the easiest. However, these items are acceptable to be used in assessing students' reading comprehension achievement because the whole test is almost in a normal distribution (neither too difficult nor easy for students).

The student questionnaire had 20 items after the content experts' judgments. According to Pollard et al. (2014), five main factors influence teachers' reflection: strategy, reader, text, task and background situation. However, in the explanatory factor analysis (EFA) of the data for the student questionnaire, it was found that four main factors were most significant (i.e. had high factor loadings). Thus, we eliminated some inappropriate items, retaining only four main factors: reader, strategy, text, and task. Other studies (Staden, 2010; Suwanto, 2014; Walker, 2008; Yang, 2016) have found that there were four main factors in this process. As a result, the new version of the questionnaire had only 17 items with strong reliability for measuring students' preferences for reader, strategy, text, and task (for reflection). This new version was also confirmed using CFA measures, and it was also found that the student questionnaire had a good fit for the teacher's reflection in reading comprehension.

In the case of the observation scheme, it was copied directly from Richards and Lockhart (2007). However, for the cross-cultural use, it was also translated and content-validated, and thus, there were only 14 items left in the observation scheme.

Consequently, it can be concluded that the instruments used in the RTMRC teaching design and the quasi-experimental research are reliable and appropriate for measuring students' achievement in reading comprehension in ELT.

## **6.2 Main Study**

### ***6.2.1 Part one: The Effectiveness of the Reflection-Based Reciprocal Teaching Approach on Students' Reading Comprehension Achievement***

This sub-study is the first part of the main study to investigate the effectiveness of the Reflection-Based Reciprocal Teaching (RBRT) approach on students' reading comprehension. The RBRT approach means using the reciprocal teaching in the framework of Oo and Habók's (2020) reflective teaching model (RTMRC) based on planning, acting, reflecting, and evaluating steps. In this sub-study, three sessions are presented. The first session is about why the reciprocal teaching is applied in the RTMRC model, and the brief conceptual framework of the RBRT approach. The second session is about the aim of the study and its brief research methods and procedures. The research findings are discussed in the last session of this sub-study.

#### ***6.2.1.1 Introduction***

Reciprocal teaching involving four strategies of predicting, questioning, clarifying, and summarizing is of great importance for improving students' reading comprehension and improving vocabulary knowledge by sharing concepts/ideas among students with the use of their background knowledge (Lestari, 2016). The four strategies of reciprocal teaching can also improve students' cognitive and metacognitive reading skills (Cooper & Greive, 2009). Furthermore, many other studies (Mannong, 2018; Okkinga et al., 2018; Stricklin, 2011) investigated the effectiveness of reciprocal teaching on students' reading comprehension achievement. They commonly agreed that reciprocal teaching is very effective for improving students' reading comprehension skills. Therefore, we are curious to investigate the effectiveness of reciprocal teaching in the Myanmar context.

However, there are some weaknesses of the reciprocal teaching method. If a teacher does not have expertise in coaching, modeling, guiding students' teamwork, and in managing the hands-on tools for guiding their collaborative work, the reciprocal teaching method cannot be effective enough for students' reading comprehension achievement (Okkinga et al., 2018). To effectively use reciprocal teaching, Mannong (2018) also cautioned that teachers should consider the suitability of the method, the tools, the characteristics of the classroom environment, the characteristics of the learning group, and students' learning preferences in order to improve student achievement and learning motivation. Richards and Lockhart (2007) stated that "there are many factors that influence how teachers approach their work and which

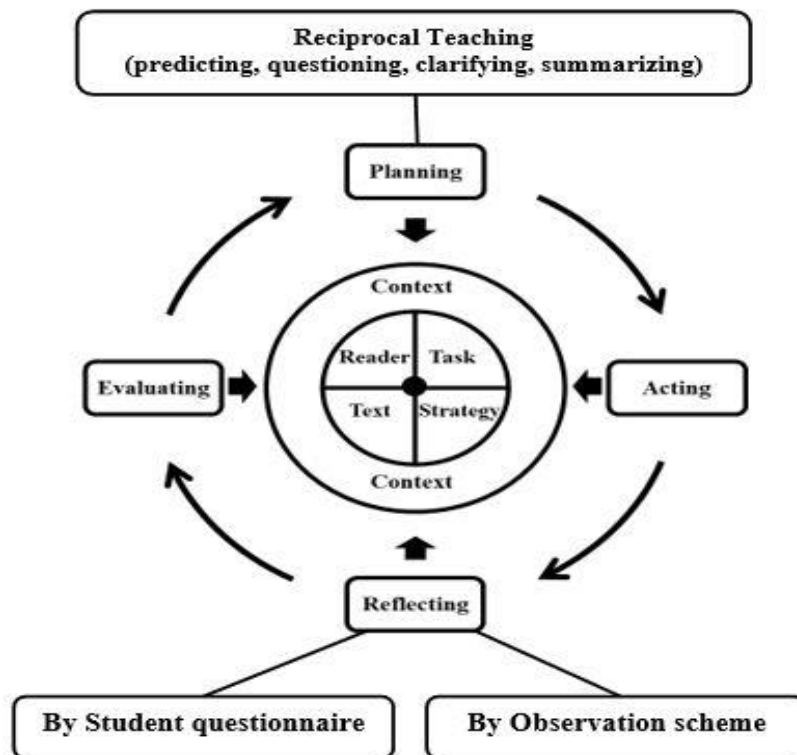
particular strategies they employ to achieve their goals" (p. 97). And they also mentioned that the instructional context involving the students themselves, the teacher's strategy, the reading text, and the kinds of classroom activities in which teachers' work has an important influence on their teaching for students' achievement. Therefore, these factors, weaknesses of reciprocal teaching alone, and the importance of instructional context call for the teacher's reflective action to examine whether the instructional context is effective in producing better students' achievement (Richards & Lockhart, 2007).

### 6.2.1.2 Brief conceptual framework

The present sub-study is based on the conceptual framework of the reflective teaching model for reading comprehension (RTMRC) involving four main steps: planning, acting, reflecting, and evaluating. In this reflective model (RTMRC), the teacher applies the reciprocal teaching method to encourage students' English reading comprehension achievement. Therefore, this instructional design is called the Reflection-Based Reciprocal Teaching (RBRT) approach. The main steps of the RBRT approach (as the conceptual framework) are presented in Figure 6.2.1.1.

**Figure 6.2.1.1**

*Conceptual Framework of the RBRT Approach*



*Note.* Adapted from Oo and Habók (2020, p. 133)

In the *planning* step, the teacher plans his/her instructional context by using the reciprocal teaching method in the way mentioned above, that is, considering whom to teach (reader), what to teach (text), how to teach (strategy), and what kinds of activities the students should do (task). In the step of *acting*, it is essential for the teacher to carefully complete the previously planned parts. In this part, the teacher engages (acts) in reciprocal teaching as planned ahead of class. The teacher first demonstrates how to predict, question, clarify and summarize the reading text. Then, the teacher gives students the activities related to the reciprocal teaching method, i.e., the students perform the roles of predictor, questioner, clarifier, and summarizer. In this step, the teacher takes on the role of a guide by coaching, monitoring, and suggesting as necessary.

In the step of *reflecting*, after the students' roles using the four kinds of activities, the teacher revises the whole text unit with related exercises and questions. These revision exercises give the students an opportunity to reflect on what they had learned from the reading text and support their transformative learning. And for the teacher's reflection on the instructional context, various kinds of reflective tools such as a teacher's journal, reports on lessons, questionnaires, audio, and video recordings, classroom observation schemes, and student feedback (Fook, 2015) can be used in this step of the RBRT approach. These reflective tools can be employed to reflect on the instructional context involving reader, text, strategy, and task. In this step of the current research, the participating teachers used two main types of reflecting tools: peer observation (observation scheme) and students' eyes/evaluation (questionnaire completed by the students based on their learning preferences) according to Brookfield's (2017) work.

In the last step, *evaluating*, formative and summative assessments were used to evaluate the instructional context, which consists of reader, text, task, and strategy. In language learning, Houston and Thompson (2017) indicated the importance of formative and summative assessment as "processes leading to judgments about opportunities for improvement in ongoing activities and about the worth of a completed activity, respectively" (p. 2). In the formative assessment (for ongoing activities), the teacher assessed students' reflective feedback through a student questionnaire, and peer observation through an observation scheme. As the summative assessment (for the completed activity), the teacher employed a post-test at the end of the treatment period (Looney, 2011).

### **6.2.1.3 Aim and research questions (RQ<sub>1</sub> – RQ<sub>3</sub>)**

This sub-study aimed to study the effectiveness of the RBRT approach for Myanmar students' reading comprehension in English. And its research questions are as follows.

RQ<sub>1</sub>: To what extent is the instrument (pre- and post-tests) reliable and valid for measuring students' reading comprehension achievement?

RQ<sub>2</sub>: What is the effectiveness of the RBRT approach on students' reading comprehension?

RQ<sub>3</sub>: What are the impacts of the teacher's instructional reflection on the students' reading comprehension achievement?

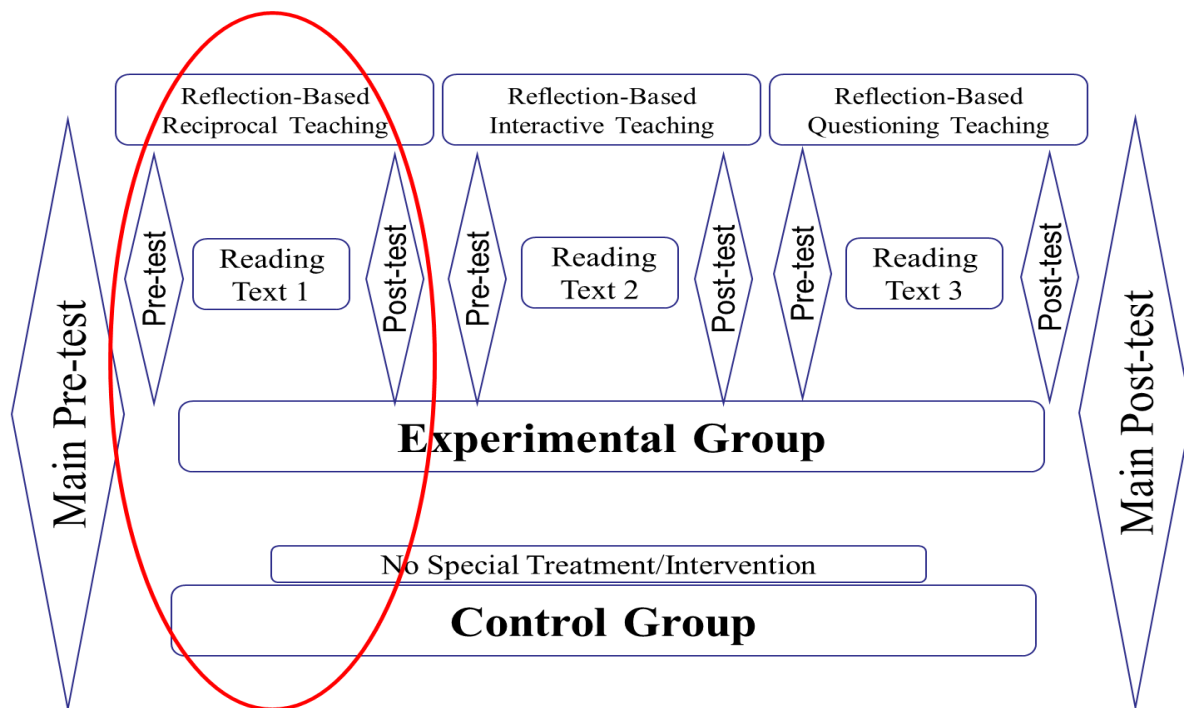
#### 6.2.1.4 Methods

##### *Research Design, Participants, Instruments and Procedures*

As this sub-study is the first part of the main study (Quasi-experimental research design), it follows the procedures of the quasi-experimental design (more information in Chapter 5). It took five weeks (1<sup>st</sup> June – 3<sup>rd</sup> July, 2020) to investigate the effectiveness of RBQA in teaching reading comprehension. The participants were 458 Grade-10 students from Myanmar, and instruments were the pre- and post-tests (see in APPENDIX A), the student questionnaire (see in APPENDIX E), and the observation scheme (see in APPENDIX F). These were also described in detail (see more information in Chapter 5). Its general design procedure is as follows (see in Figure 6.2.1.2).

**Figure 6.2.1.2**

*General Design Procedure of the RBRT Approach*



*Note.* No special treatment (traditional way, bottom-up approach)



This sub-study is the investigation of the effectiveness of the RBRT approach with a larger sample size (458 Grade-10 students from Myanmar). In this step, we selected five sample schools from Myanmar by using a cluster randomized trial. The intact groups in each school were randomly assigned to the experimental group and the control group. First, we administered a pre-test to detect any initial differences between the experimental and the control groups to see if the two groups were essentially the same in their levels of reading comprehension before the treatment. Second, as the treatment, the experimental group participated in the developmental sessions and was taught using the RBRT approach. The developmental period took five weeks and consisted of 25 sessions (45 mins each). The control group did not have any special developmental sessions; these students learned in the traditional way. During the treatment period of five weeks for each experimental group, five English language teachers used the RBRT approach by following our provided lesson plans (see in APPENDIX G). The students were given related activities with reciprocal teaching involving predicting, questioning, clarifying, and summarizing in which detailed teaching steps are described in the conceptual framework (see in Figure 6.2.1.1). After these students' activities, the teachers revised the text with related questions and exercises to clarify any confusion the students had related to information gained from the text. For this sub-study, the student questionnaire was used five times for the experimental groups during the treatment period but not for the control groups. To improve the reflective action, the English language teachers gained the data from five times of observers' random observations during the intervention period of the experimental group. And the teachers evaluated the results of student questionnaire and observation scheme. If they need to modify some weaknesses in their earlier instruction, they self-corrected them and improved their instruction later. Third, at the end of the treatment period, both groups completed the post-test.

### **6.2.1.5 Findings**

*Addressing RQ<sub>1</sub>: To what extent is the instrument (pre- and post-tests) reliable and valid for measuring students' reading comprehension achievement?*

To answer the above research question, we confirmed the content and construct validities of the instruments in this sub-study. The pre- and post-tests were used to measure students' reading comprehension achievement, while other instruments (student questionnaire and observation scheme) were used to help teachers teach the students reading comprehension effectively with the RBRT approach.

For content validity of the instruments, the student questionnaire and the observation

scheme have already been validated in the pilot study. However, for the pre- and post-tests for this sub-study, they were also content-validated by six experts. In analysis of their findings, the content validity index (CVI) was used. For the CVI analysis, a four-point scale (not relevant, somewhat relevant, quite relevant, and highly relevant) was used by the six content experts to rate the relevance of each item from the instruments (Polit et al., 2007). In the analysis of these CVI values, we counted “the number of experts who rated three or four (not one and two) and divided that number by the total number of experts” (Rubio et al., 2003, p. 97). The CVI value is acceptable if it is .80 and above (Newman et al., 2013). The content of pre- and post-tests is valid after deleting two items which were lower than .80 (see in Table 6.2.1.1).

**Table 6.2.1.1**

*Items of the Pre- and Post-tests Rated by Experts for Content Validity*

Instruments	Factors/ Components	Item- Numbers	Experts						CVI (≥ .80)*
			1	2	3	4	5	6	
Pre- and post- tests	Literal	I (B). 1	4	3	4	3	4	4	6/6 = 1.00
		I (B). 2	4	4	4	4	4	4	6/6 = 1.00
		I (B). 3	3	4	2	4	4	4	5/6 = .83
		I (B). 4	4	4	3	4	4	4	6/6 = 1.00
		I (B). 5	4	3	2	4	4	4	5/6 = .83
		I (C). 1	3	3	3	4	4	4	6/6 = 1.00
	Reorganizational	III	4	3	4	3	4	3	6/6 = 1.00
		IV	4	3	4	4	4	4	6/6 = 1.00
		V	4	4	4	4	4	4	6/6 = 1.00
	Inferential	I (A). 1	4	3	4	4	4	4	6/6 = 1.00
		I (A). 2	4	3	3	4	4	4	6/6 = 1.00
		I (A). 3	3	3	4	4	4	4	6/6 = 1.00
		I (A). 4	2	3	3	4	4	3	5/6 = .83
		I (A). 5	4	4	4	3	3	2	5/6 = .83
	Evaluative	I (C). 2	4	4	3	4	3	4	6/6 = 1.00
		I (C). 3	3	4	2	4	4	4	5/6 = .83
		II. 1	3	4	2	4	4	4	5/6 = .83
		II. 2	4	3	4	3	4	4	6/6 = 1.00
		II. 3	4	3	3	3	4	4	6/6 = 1.00
	Appreciative	I (C). 4	4	2	4	3	3	3	5/6 = .83
I (C). 5		3	3	3	3	2	3	5/6 = .83	
II. 4		3	4	3	3	4	4	6/6 = 1.00	
II. 5		4	2	3	3	3	3	5/6 = .83	

*Note.* \* Recommended value, 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant

Construct validity, which evaluates the degree to which items in the measuring tool relate to each other, is also measured based on the convergent and the discriminant validities of instruments (Habók & Magyar, 2018). For the convergent validity measures, overall alpha values of all instruments are  $>.60$ , except for a few of the factors (inferential and appreciative) values. These inferential and appreciative question items are not the direct questions from the tests and the students need deep comprehension about the text. Therefore, they are more difficult than other items in this test and shows lower reliability values in analysis. Almost all values of the CR and the AVE from this sub-study were consistent with their recommended values (Table 6.2.1.2). Therefore, the convergent validity of the instruments of this sub-study was confirmed.

**Table 6.2.1.2**

*Convergent Validity of Instruments*

Instruments	Factors	No. of Items	Cronbach's Alpha ( $>.60$ )*	Average Variance Extracted ( $>.50$ )*	Composite Reliability ( $>.70$ )*
Pre- and post-tests	Literal	7	.60	.54	.78
	Reorganizational	2	.85	.76	.86
	Inferential	5	.42	.48	.79
	Evaluative	5	.71	.43	.78
	Appreciative	4	.40	.62	.77
	Total (Overall reliability)	23	.77	.49	.95

*Note.* \*Shows an acceptable level of reliability or validity

For the discriminant validity of the pre-and post-tests in this study (Table 6.2.1.3), all values of the square root of the AVE are higher than all the inter-construct values in the instrument. Therefore, this supports the discriminant validity of the pre- and post-tests.

**Table 6.2.1.3***Discriminant Validity Measures of Pre- and Post-tests*

Instruments	Components	Component Correlation Matrix				
		Literal	Reorgani- zational	Inferential	Evaluative	Appreciati ve
Pre- & post- tests	Literal	<b>.73*</b>				
	Reorganizational	.007	<b>.87*</b>			
	Inferential	.133	.022	<b>.69*</b>		
	Evaluative	.243	.285	.005	<b>.66*</b>	
	Appreciative	.129	.043	.011	.164	<b>.79*</b>

*Note.* \*Describes the square root of the average variance extracted value

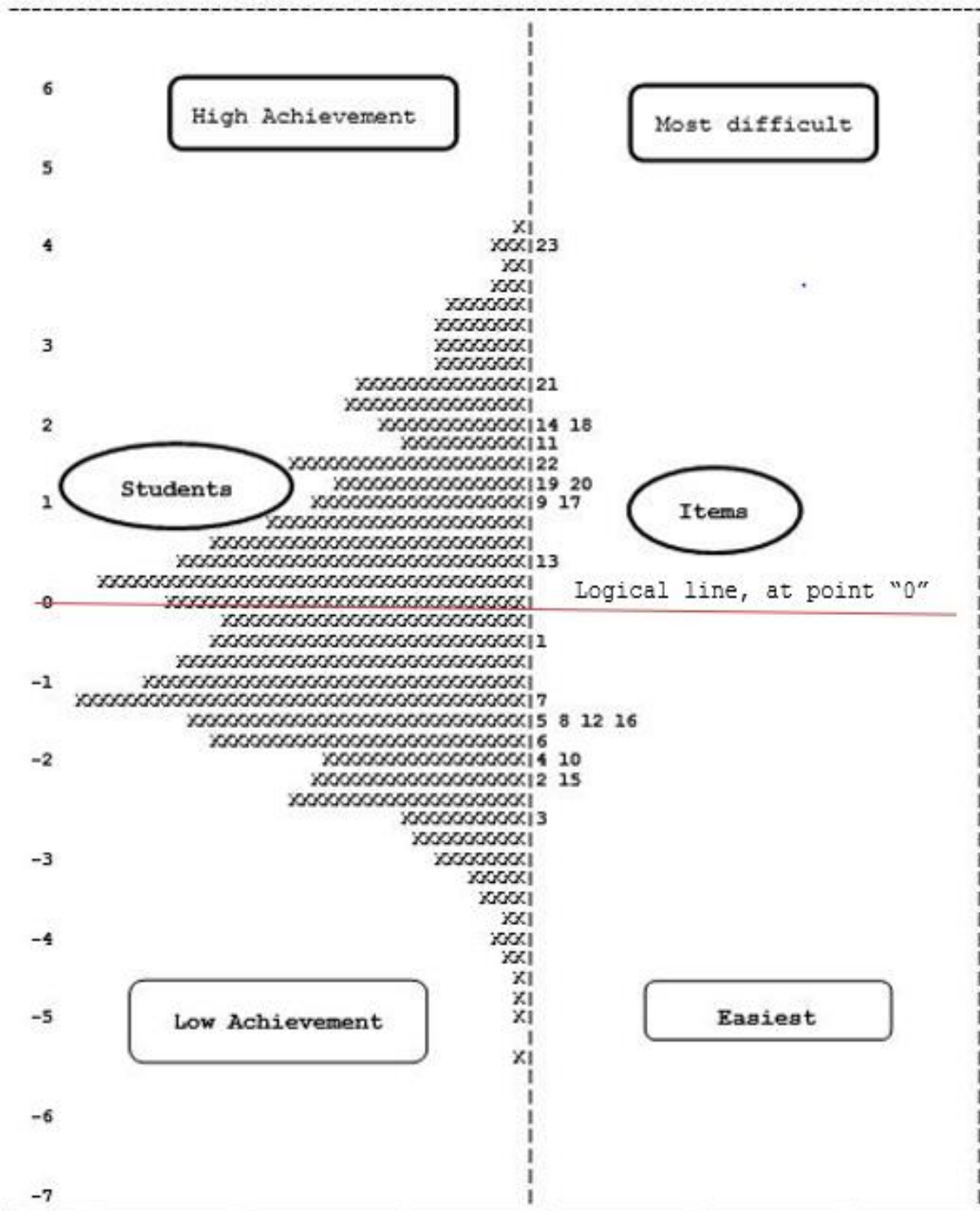
Based on the above content and construct validity measures of the pre- and post-tests (student questionnaire and observation scheme which had already been validated in the pilot study), it was concluded that all the instruments in this sub-study were reliable and valid for measuring the students' reading comprehension achievement.

*Addressing RQ<sub>2</sub>: What is the effectiveness of the RBRT approach on students' reading comprehension?*

To answer this question, it was necessary to compare the student group that was taught to read texts with the RBRT approach and the other student group that was not taught with this approach. Before investigating the effectiveness of the RBRT approach, we employed Rasch analysis to estimate the ability parameters and item difficulty levels of both groups (based on the post-test scores of the students from both experimental and control groups). The distribution between the students' achievement and item difficulty levels is shown in Figure 6.2.1.3.

**Figure 6.2.1.3**

*Item-Person Map Indicating the Students' Ability Levels and Item-Difficulty on the Same Scale*



*Note.* Each 'X' represents 1.6 cases.

In Figure 6.2.1.3, the left side of the graph shows the students' ability level, and the right side shows the difficulty levels of the items. The higher part of the students' achievement indicates the students' higher ability, and the lower part shows the students' lower ability. The

higher part of the item difficulty level indicates the most difficult items, and the lower part shows the easiest items. The graph shows that the students achieved highly in lateral comprehension (items 6, 7, 8, 9, 10, 11, and 21), evaluative comprehension (items 12, 13, 16, 17, and 18) and inferential comprehension (items 1, 4, and 5) because these appear in the middle part of the graph, which means neither too difficult nor too easy. However, the students had low achievement in reorganizational comprehension (item 23) because this is the difficult item that is situated in the higher part of the difficulty level. Some items in the lower part of the graph (3, 2, and 15) describe the students' inferential and appreciative comprehension, and these are the easiest items for the students. In a nutshell, the whole test is neither too difficult nor too easy for the students. Therefore, we can interpret that the test item distribution is normal for evaluating student achievement.

After assessing the item discrimination of the test, a *t*-test can be used. First, to investigate the initial differences in the experimental and the control groups related to the students' reading comprehension level before the treatment period with the RBRT approach, both groups completed the pre-test. The results are presented in Table 6.2.1.4.

**Table 6.2.1.4**

*Results of Pre-tests of Experimental and Control Groups*

Groups	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	14.80	2.03	-.13	0.06	456	.50 (n.s)
Control	230	14.93	2.06		(very low)		

*Note.* Not significant (n.s)

The data from the pre-test were analyzed by using the independent samples *t*-test to analyze the differences between the experimental and the control groups. We could not discover any significant difference between the two groups ( $p > .05$ ) on the pre-test. The maximum given score of the pre-test is 45 points. The mean scores of both groups were almost equal (14.80 and 14.93). Therefore, it appears that the levels of the students from these two groups were almost the same before the treatment with the RBRT approach was applied.

After the treatment with the RBRT approach, to study the effectiveness of this approach, it is necessary to test whether there is a statistically significant difference between the experimental and the control groups. The findings are shown in Table 6.2.1.5.

**Table 6.2.1.5***Results of Post-tests of Experimental and Control Groups*

Groups	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	30.58	5.16	4.39	0.88	456	<.001
Control	230	26.45	4.16				

The students' results were analyzed by using the independent samples *t*-test to compare the differences between the control and the experimental groups. A significant difference ( $p < .001$ ) was found between the participants who were taught the reading texts through the RBRT approach and those who were not taught with this approach. The maximum score given for the post-test is 45 points. The experimental group's mean score (30.58) is significantly higher than that of the control group (26.45). The effect size (Cohen's  $d = 0.88$ ) is also high. Therefore, it may be said that the RBRT approach had a considerable impact on the participants' achievement. On the whole, it can be interpreted that teaching with the RBRT approach is more effective than other traditional teaching methods.

We also compared the results from the pre-test and post-test of the experimental group to investigate the effectiveness of the RBRT approach. The findings are shown in Table 6.2.1.6.

**Table 6.2.1.6***Results from Pre-test and Post-test of Experimental Group*

Experimental group	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Pre-test	228	14.80	2.03	-15.79	4.02	227	<.001
Post-test	228	30.58	5.16		(very large)		

The data obtained from the pre-test and post-test of the experimental group were examined by applying a paired sample *t*-test to compare the differences between the students' achievement before and after the treatment with the RBRT approach. A significant difference between the students' achievement was identified ( $p < .001$ ). Based on the mean difference, the post-test mean value ( $M = 30.58$ ) is higher than that of the pre-test ( $M = 14.80$ ). Therefore, it can be said that the students achieved more as a result of the treatment with the RBRT approach. Regarding effect size, Cohen's  $d$  value is 4.02. This means that teaching with RBRT has a significant effect on student achievement.

Concerning the effectiveness of the traditional teaching method in teaching reading comprehension, the pre- and post-tests of the control group was also compared by the paired

samples *t*-test. There was also a significant difference between them. The mean score of post-test ( $M = 25.90$ ) is significantly higher than that of the control group ( $M = 12.71$ ). The effect size of traditional teaching method (Cohen's  $d$ ) is 3.26 (see in Table 6.2.1.7). However, the effect size by teaching with the traditional teaching method was lower than that by teaching with the RBRT approach (Cohen's  $d = 4.02$  from Table 6.2.1.6). Accordingly, it was very clear to see that the RBRT teaching was more effective than the traditional teaching method.

**Table 6.2.1.7**

*Results from Pre-test and Post-test of Control Group*

Experimental group	N	M	SD	MD	Effect Size (Cohen's $d$ )	$df$	Sig
Pre-test	230	12.71	2.26	-13.20	3.26	229	<.001
Post-test	230	25.90	5.25		(very large)		

*Addressing RQ<sub>3</sub>: What are the impacts of the teacher's instructional reflection on the students' reading comprehension achievement?*

We have measured the association between the student questionnaire and the students' achievement; and the association between the observation scheme and the students' achievement. The post-test scores were used as indicators of student achievement. Concerning the connection between the student questionnaire and the students' achievement, there were some fit indices to show how well the model fits with the data (GFI = .94; CFI = 1.00; RMSEA = .06). Regarding the connection between the observation scheme and the students' achievement, the model was also well fitted (GFI = 1.00; CFI = .95; RMSEA = .02). Thus, in the case of both the student questionnaire and the observation scheme, the fit indices were well fitted with the recommended values, as shown in Table 6.2.1.8.

**Table 6.2.1.8**

*Model Fit Measures*

Instruments	GFI (>.9)*	CFI (≥.9)*	RMSEA (.08)*
Student questionnaire	.94	1.00	.06
Observation scheme	1.00	.95	.02

*Note.* \*Describes the recommended values; GFI describes the minimum discrepancy function for perfect fit; CFI describes the model power when it was compared with “the situation without the model”; RMSEA tells how much error remains after fitting the model.

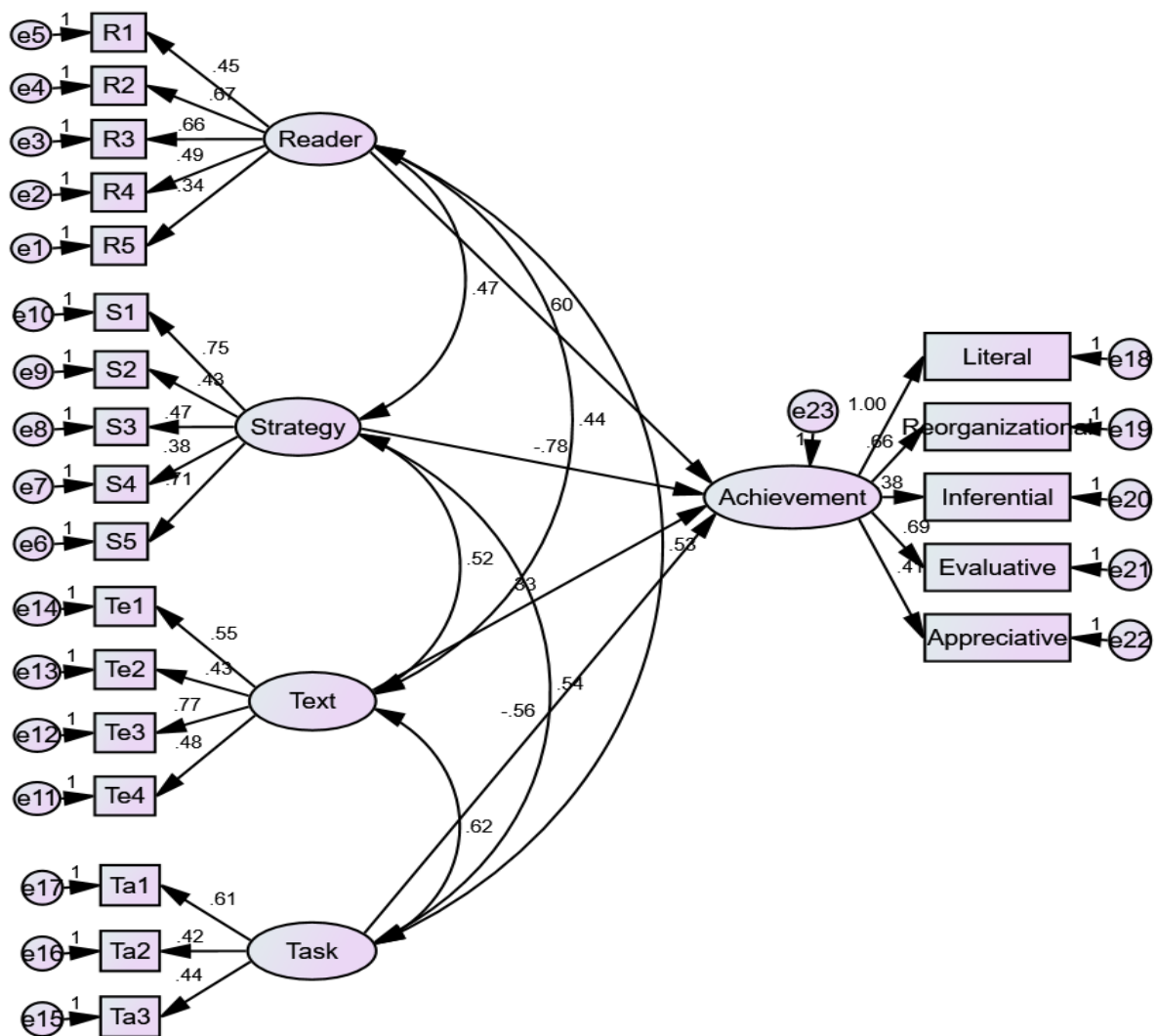


It was found that the teachers' indirect reflection on the instructional context (the connection between the student questionnaire and student achievement; and the relationship between the observation scheme and student achievement) is effective for encouraging students' reading comprehension achievement.

Particularly in the association between the student questionnaire and student achievement, there were some positive and significant impacts related to student achievement by reader reflection and text reflection ( $\beta = .60, p < .01$ ; and  $\beta = .52, p < .05$ ), whereas there were some negative and nonsignificant impacts on student achievement through strategy reflection and task reflection ( $\beta = -.78, p > .05$ ; and  $\beta = -.56, p > .05$ ), as shown in Figure 6.2.1.4.

**Figure 6.2.1.4**

*Connection between Student Questionnaire and Student Achievement*

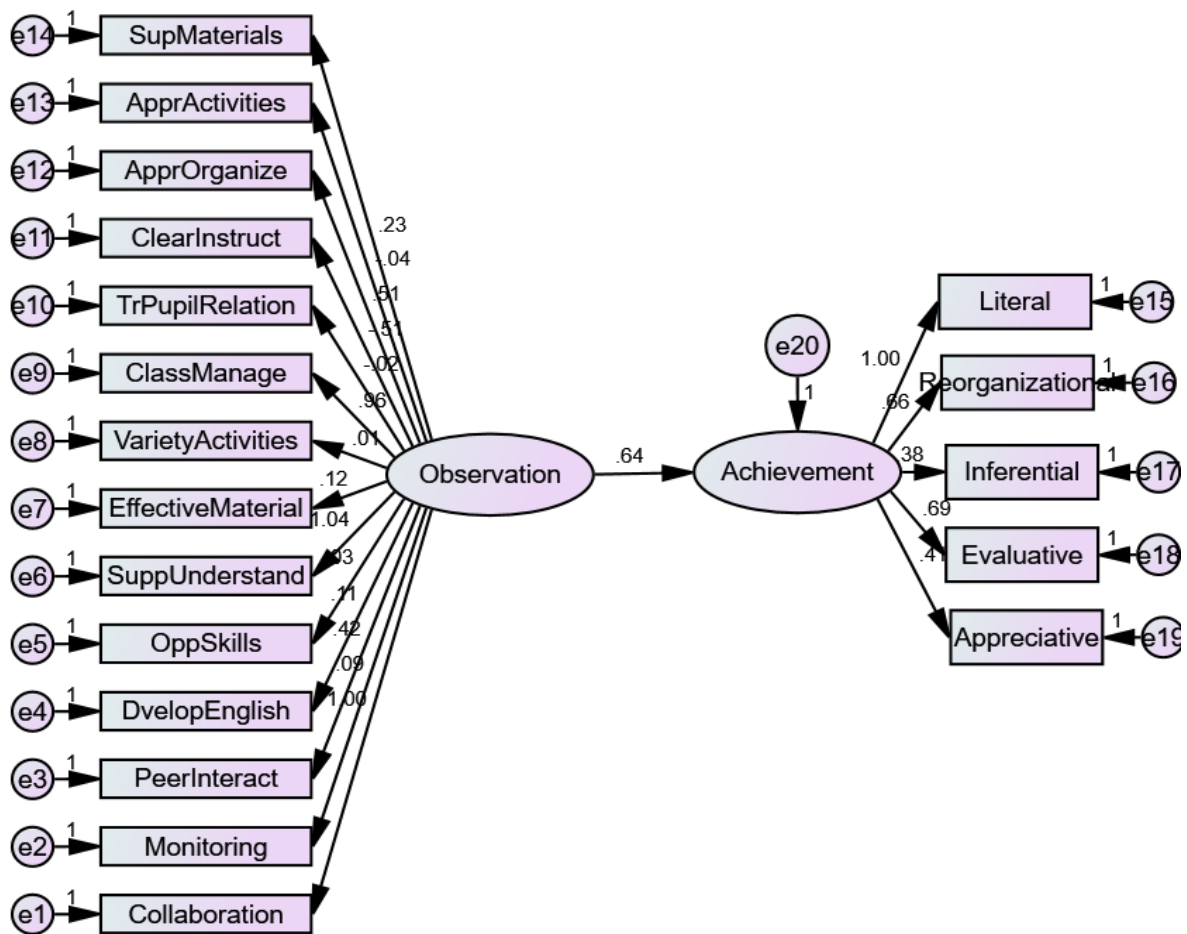


Note. N = 1140; five times of reflection

Specifically, the relationship between the observation scheme and student achievement suggests that the teacher's use of an observation scheme has a significant and positive impact on students' reading comprehension achievement ( $\beta = .64$ ;  $p < .05$ ), as indicated in Figure 6.2.1.5.

**Figure 6.2.1.5**

*Connection between Observation Scheme and Student Achievement*



Note. N = 50; five times of observation

Generally, therefore, the teacher's indirect reflection was significant and had a positive impact on the students' reading comprehension achievement.

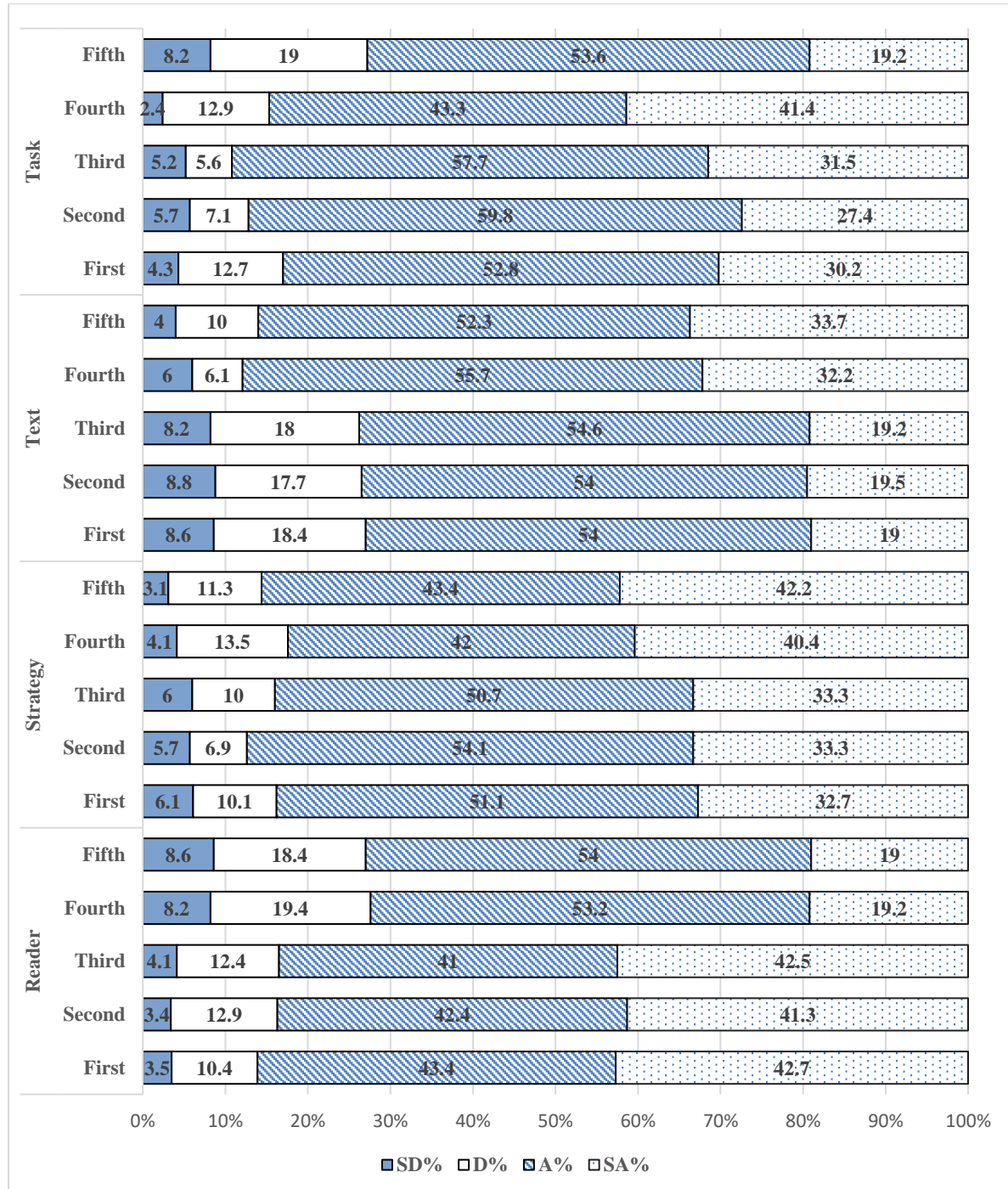
*Results of the Reflection on Instructional Context with the Student Questionnaire*

To highlight the effectiveness of the teachers' indirect reflection on students' reading comprehension achievement, the detailed results of the student questionnaire and observation scheme are also shown. In the present sub-study, we used the student questionnaire five times for the teachers to reflect on the instructional context, more precisely involving reader (five

items), strategy (five items), text (four items), and task (three items). Based on the students' responses through using a student questionnaire, the teachers asked for feedback from the students and considered these in their instructional planning (Figure 6.2.1.6).

**Figure 6.2.1.6**

*Results from Student Questionnaire*



Note. N = 1140 (five times of reflection); SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

The teachers reflected on their instructional context (reader, strategy, text, and task) based on students' preferences. The results are as follows (based on the data from Figure 6.2.1.6).

#### *Reflection on reader*

Most of the students like learning English by collaborating with others. They prefer conversations to discuss their English learning, and they even prefer discussions with peers about unfamiliar words instead of looking up words in the vocabulary or asking for external assistance. It was found that some students, due to cultural influence, feel ashamed of themselves in their individual work. Therefore, when the teacher saw the data of students' shyness in the questionnaire, they improved their instruction by modifying (e.g., by encouraging their involvement in the individual work) such kind of instructional event.

#### *Reflection on strategy*

The teachers, who teach reading comprehension using the reciprocal method, must take care to balance their active involvement so that their role does not become overemphasized. Some students' responses on this questionnaire showed that the teachers' voices remained low. Poor classroom management could lead to a noisy and uncontrollable environment for students. Generally, it was found that the teachers' strategy use was appropriate, with almost all the students preferring it. The results suggested that for students, the most distinct benefit of the reciprocal teaching strategy is that it is helpful for recalling their vocabulary.

#### *Reflection on text*

Most of the students were proficient at doing reading comprehension exercises from the text. However, a few students could not do these exercises successfully. Teachers should therefore consider ways to improve students' understanding. During the developmental sessions, the teachers gave some revision/reflective exercises and most of the students performed these well. However, it was also found that the students understand the text better if the teachers explain it after their role-play. According to the students' responses, the teachers' comments and explanations are helpful. For a complete understanding of the text, students need more time. Therefore, the teachers need to consider time management when employing the reciprocal teaching method.

#### *Reflection on task*

When reciprocal teaching is employed in the classroom, students have to play the roles of questioner, clarifier, summarizer, and predictor, showing competence in each. In this sub-study,

the students all preferred these role-plays. They also appreciated the reading comprehension tasks, that is, reflective exercises for reading comprehension (literal, reorganizational, inferential, evaluative, and appreciative tasks). However, it was found as well that some students had difficulty responding to certain reading comprehension tasks. In the reciprocal teaching method, a task does not depend on the students' tasks alone. For example, in the role of "clarifier," students must clarify the questioner's questions. During this part of the exercise, the teachers should help students with their tasks to ensure their clear comprehension if the "clarifier" cannot explain something well. The study was also found that some students desire the teachers' support and a clear explanation.

Based on the results of the first reflection, the teachers addressed their weaknesses in the instructional context and tried to improve their teaching. Therefore, some improvement is evident in the later reflections (see in Figure 6.2.1.6) on their instruction.

*Results of the Reflection of Instructional Context by the Observation Scheme*

In the "reflecting step" of the RBRT approach, the teachers also asked for help from 10 peers to observe their reading comprehension instruction. The peer observers observed and evaluated the developmental sessions five times during the treatment period when the RBRT approach was used. Table 6.2.1.9 shows the evaluations of the developmental sessions.

**Table 6.2.1.9**

*Results of Peer Observations*

Events to be observed	Levels	Times of Observation				
		First (%)	Second (%)	Third (%)	Fourth (%)	Fifth (%)
Appropriateness of the selection of materials	1	30	0	0	0	0
	2	60	90	50	20	10
	3	10	10	50	50	40
	4	0	0	0	30	50
Appropriateness of planning the activities	1	0	0	0	0	0
	2	0	0	0	50	90
	3	30	20	10	50	10
	4	70	80	90	0	0
Appropriateness of the organization of the class	1	0	0	0	0	0
	2	30	20	10	10	10
	3	70	70	60	70	80
	4	0	10	30	20	10
Clear instructions and models of English language use	1	0	0	0	0	0
	2	0	0	0	0	0
	3	60	50	20	10	10
	4	40	50	80	90	90

Effective teacher/pupil interaction	1	0	0	0	0	0
	2	10	20	10	50	45
	3	90	70	60	50	55
	4	0	10	30	0	0
Effective organization and management of the whole class	1	10	10	0	0	0
	2	60	30	20	40	50
	3	30	60	80	60	50
	4	0	0	0	0	0
Variety of activities	1	0	0	0	0	0
	2	0	0	10	70	50
	3	100	80	60	30	50
	4	0	20	30	0	0
Effective materials	1	0	0	0	0	0
	2	30	20	20	10	10
	3	70	80	80	70	60
	4	0	0	0	20	30
Support for understanding	1	0	0	0	0	0
	2	30	20	10	40	50
	3	50	70	60	60	50
	4	20	10	30	0	0
Opportunities for learners to apply their existing skills and knowledge	1	0	0	0	0	0
	2	0	0	10	60	80
	3	70	70	70	40	20
	4	30	30	20	0	0
Opportunities for developing English language use	1	0	0	0	0	0
	2	0	0	0	50	40
	3	80	70	70	50	60
	4	20	30	30	0	0
Opportunities for peer group interaction	1	0	0	0	0	0
	2	0	0	0	40	50
	3	30	40	30	60	50
	4	70	60	70	0	0
Effective monitoring of learning	1	0	0	0	0	0
	2	10	20	10	10	10
	3	90	60	60	50	40
	4	0	20	30	40	50
Sensitive environment for individual learners and their communicative needs	1	0	0	0	0	0
	2	0	0	0	20	20
	3	40	30	30	80	80
	4	60	70	70	0	0

*Note.* N = 50 (five times of ten peers), 1 = *Very poor*, 2 = *Poor*, 3 = *Good*, 4 = *Excellent*

From the results of the observation scheme, it was found that teachers were weak in selecting appropriate materials for teaching. They need to prepare some materials, for example, worksheets, practice profiles, a student participation checklist, and so on. If possible, they should clarify the reciprocal teaching method for the students through PowerPoint slides/files. All peer observers agreed that the teachers could give a clear explanation and offer appropriate activities. They mentioned that this strategy can enhance students' reading comprehension skills and improve communication skills. This is the best way to encourage peer interaction. This strategy is good for quiet students' communication needs. Moreover, the peer observers

suggested that if the teachers plan well, this is a very good strategy for improving students' reading comprehension.

However, some of the observers suggested the teachers need to organize the class well to use this approach. They mentioned that teachers should focus on their interaction with the pupils. In employing the RBRT approach, teachers should not assume that only the students must do these activities - questioning, clarifying, summarizing, and predicting. They should interact with the students and help them as necessary.

Based on the observers' suggestions, the teachers saw their weaknesses in the first observation and corrected them, and planned for better instruction in later periods. Therefore, some improvements can be seen in later sessions (Table 6.2.1.9).

#### ***6.2.1.6 Discussion and summarization***

In this sub-study, we investigated three research questions. In testing the first question concerning the reliability and validity of the instruments (pre- and post-tests, student questionnaire, and observation scheme), the overall content and construct validities of pre- and post-tests were acceptable, although there were some weak values of internal consistency reliability and AVE values. These content and construct validities of the instruments were sufficient to inquire into the effect of the RBRT approach on students' reading comprehension achievement.

In testing the second research question regarding the effectiveness of the RBRT approach for students' reading comprehension achievement, the normal distribution of the tests was first tested through ConQuest analysis of the Rasch model. It was found that the tests were in a normal distribution. After the normality measures, the effectiveness of the RBRT approach was also evaluated through analysis with a *t*-test and effect size (Cohen's *d*). It was found that the RBRT approach is more effective than traditional teaching methods in teaching reading comprehension. It also showed that the students showed high achievement in literal and inferential comprehension skills.

In testing the third research question concerning the teachers' reflection on the students' achievement, the data from the student questionnaire and observation scheme were analyzed by using SEM. Checking the connection between the student questionnaire and the students' achievement, it was found that two factors (teachers' reflection on reader and reflection on text) had a significant impact on student achievement, although there were some negative impacts on the teachers' reflection on strategy and reflection on task. The teachers' reflection by the use of the observation scheme had a significant influence on the students' achievement.

Therefore, it can be interpreted that the teachers' reflection on the instructional context is effective in raising students' reading comprehension achievement. To highlight the importance of the teachers' reflection for teaching reading comprehension, the results of these two instruments (student questionnaire and observation scheme) were also described in detail in order for the teachers to improve their instructional planning.

In investigating the effect of the RBRT approach on students' reading comprehension achievement, not only did the teachers reflect on their instructional context, but the students also reflected on their learning and expressed their opinions to their teacher. The teachers' reflections were aimed at having a good sense of the instructional context (involving strategy, reader, text, and task), whereas the students reflected on their learning to achieve a greater understanding. Therefore, the RBRT approach can provide many benefits to not only teachers but also students.

The students' vocabulary knowledge is also significantly increased in the field of reading comprehension. The study showed that students' literal and inferential comprehension skills are highly significant in student achievement. A previous study (Mandel et al., 2013) also indicated that students' vocabulary knowledge can become more developed during the reading comprehension process. This is a shared similarity between the reciprocal teaching method and the RBRT approach. There are some differences between them as well. In the reciprocal teaching method without reflection, Egiyantinah et al. (2018) found that the reciprocal teaching method is effective for improving reading comprehension; however, students' learning styles should be considered in order to gain more effectiveness. Regarding the RBRT approach, the teachers not only used reciprocal teaching alone but also reflected on their instructional context. Therefore, they could understand what the learners' preferences and their learning styles are, how effective their teaching strategy is, how well students understand the text, and how they feel about different learning activities.

The RBRT approach involves two main functions: reflection using Oo and Habók's (2020) reflective teaching model for reading comprehension, and the reciprocal teaching method. Therefore, this combined approach can provide the teachers and students with many benefits of both functions.

Reflection gave the teachers the opportunity to analyze how and why the classroom situation was as it was (Rico et al. 2010). In the current reflective teaching process, the teachers also had a chance to assess their teaching method, what the students' learning preferences were, how the text and the activities were proceeding, and how they could improve their approaches to teaching based on their reflective analysis. Some examples are the following: (1) Based on



one item on the student questionnaire (*I like the English teacher using the relevant questions while teaching the reading text*) as student feedback, the teachers could emphasize giving the students the related reflective questions on the text to help them better understand the text; (2) Another item (*When I don't understand something while reading the English text, I like to guess the meaning by connecting with other related words*) reveals that teachers should know whether their students greatly depend on the teachers/other students or not; and (3) this item reflection (*I do better at reading in English when I work with others*) helped the teachers improve the students' collaborative work by monitoring and guiding them to work together for better comprehension. Furthermore, according to the reflection by peer observers, the teachers could improve their instruction by planning appropriate activities and materials; effectively organizing the classroom presentation, interacting with the students, giving the students opportunities for using their prior knowledge to relate to their knowledge of the current text for greater understanding, and helping them develop their communication skills.

To conclude, this sub-study confirmed that there was a statistically significant difference between the experimental and control groups. We confirmed that the RBRT approach is more effective than other traditional strategies in teaching reading comprehension. Therefore, the RBRT approach can provide many benefits to both teachers and their students in ELT.

### ***6.2.2 Part Two: The Effectiveness of the Reflection-Based Interactive Teaching Approach on Students' Reading Comprehension Achievement***

This sub-study is the second part of the main study. It is about the Reflection-Based Interactive Teaching (RBIT) approach, which means the application of the interactive teaching approach in the framework of Oo and Habók's (2020) reflective teaching model, RTMRC. In this sub-study, three sessions are presented. The first session is about the importance of reflective teaching in qualifying interactive teaching for reading comprehension, and the brief conceptual framework of the RBIT approach. The second session is about the aim of this sub-study and its research questions, methods, and procedures. The research findings are discussed in the last session of this sub-study.

#### ***6.2.2.1 Introduction***

In teaching reading comprehension, different teachers use different teaching strategies. Among these different instructional strategies of reading comprehension, interactive teaching is also useful for the teachers to raise students' learning curiosity and stimulate their craving for knowledge (Sun et al., 2020). Interactive teaching helps the teachers improve their students' reading skills, including the ability to relate students' background knowledge and reading text, generate the skills of questioning, summarizing, recognizing, and decoding the information of the text (Anyiendah et al., 2019). It is the hybrid approach of bottom-up and top-down reading strategies (Oliver, 2016) and, it is also an interaction of many sub-processes such as (1) stimulating students' background knowledge, (2) identifying the important ideas from the reading text, and (3) making prediction and inferences by relating the background knowledge and new knowledge from the text (Lo et al., 2013).

However, some studies recommended that this interactive teaching also has some weaknesses. In their study, Anyiendah et al. (2019) mentioned that interactive teaching is not sufficient if the teacher cannot effectively stimulate students' prior knowledge to relate it with the new knowledge of the text. And another study (Sun et al., 2020) exclaimed that the effectiveness of interactive teaching strategy cannot be guaranteed if the teacher does not understand the background knowledge levels of the students. Interactive teaching can be effective only if the teacher effectively plans the instructional procedures including teaching aids, activities, and clear explanations (Xiaojing, 2019). Therefore, teachers need reflective teaching practices to know their instructional weaknesses and modify them as necessary to create better instructions (Valdez et al., 2018). Furthermore, Oo et al. (2021) suggested that

any kind of teaching strategies can be examined and modified by applying them in the framework of their reflective teaching model for reading comprehension, RTMRC.

Therefore, this sub-study is about the application of interactive teaching strategy in the framework of RTMRC to investigate its effectiveness in teaching reading comprehension, which is named as ‘reflection-based interactive teaching (RBIT) approach.

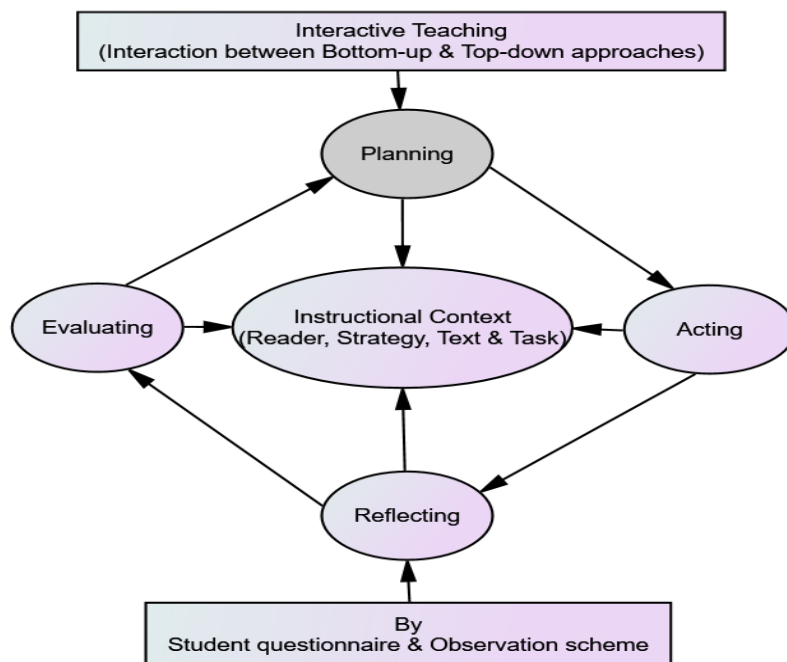
### 6.2.2.2 Brief conceptual framework

Interactive teaching is the combination of top-down strategy (a process of connecting information in the text with the knowledge the reader brings to the act of reading) (Debat, 2006) and bottom-up strategy (a process of reading first the various linguistic signs, such as letters, morphemes, syllables, words phrases, grammar structures, and discourse mark, then using a processing mechanism that makes reasonable, coherent and meaningful) (Ardhani, 2016). For stimulating students’ prior knowledge, the teacher used some techniques; carousel brainstorming, pre-teaching vocabulary, and K-W-L.

This RBIT approach is the teacher's use of interactive teaching procedures (based on the interaction between top-down and bottom strategies) in the framework of the model, RTMRC which is based on four stages; planning, acting, reflecting, and evaluating (see in figure 6.2.2.1).

**Figure 6.2.2.1**

*Conceptual Framework of the RBIT Approach*



*Note.* Adapted from Oo and Habók (2020, p. 133)

In the step of *planning*, the teacher plans to teach the reading comprehension to students based on the interactive teaching procedures (strategy), which kind of text to teach (text), what activities to give (task), and whom to teach, and what levels of their prior knowledge (reader). As for the stage of *acting*, the teachers followed the way they planned before in the planning stage. In the *reflecting* stage, the teachers reflect their instructional context by the use of two reflective tools; the student questionnaire and the observation scheme suggested by Brookfield (2017). And they also give the students reflective exercises related to the text to reflect on their achievement. As the last step, *evaluating*, the teachers evaluate the results from the reflective tools and reflective exercises.

### **6.2.2.3 Aim and research questions (RQ<sub>4</sub> – RQ<sub>7</sub>)**

This sub-study aimed to investigate the effectiveness of the RBIT approach on students' achievement in reading comprehension. Therefore, its related research questions are described to be addressed empirically.

RQ<sub>4</sub>: How reliable is the instrument (pre- and post-tests) for measuring students' reading comprehension achievement?

RQ<sub>5</sub>: What is the effectiveness of the RBIT approach on students' reading comprehension achievement?

RQ<sub>6</sub>: What are the teachers' instructional reflection on the students' reading comprehension achievement?

RQ<sub>7</sub>: How did teachers improve their instructional processes?

### **6.2.2.4 Method**

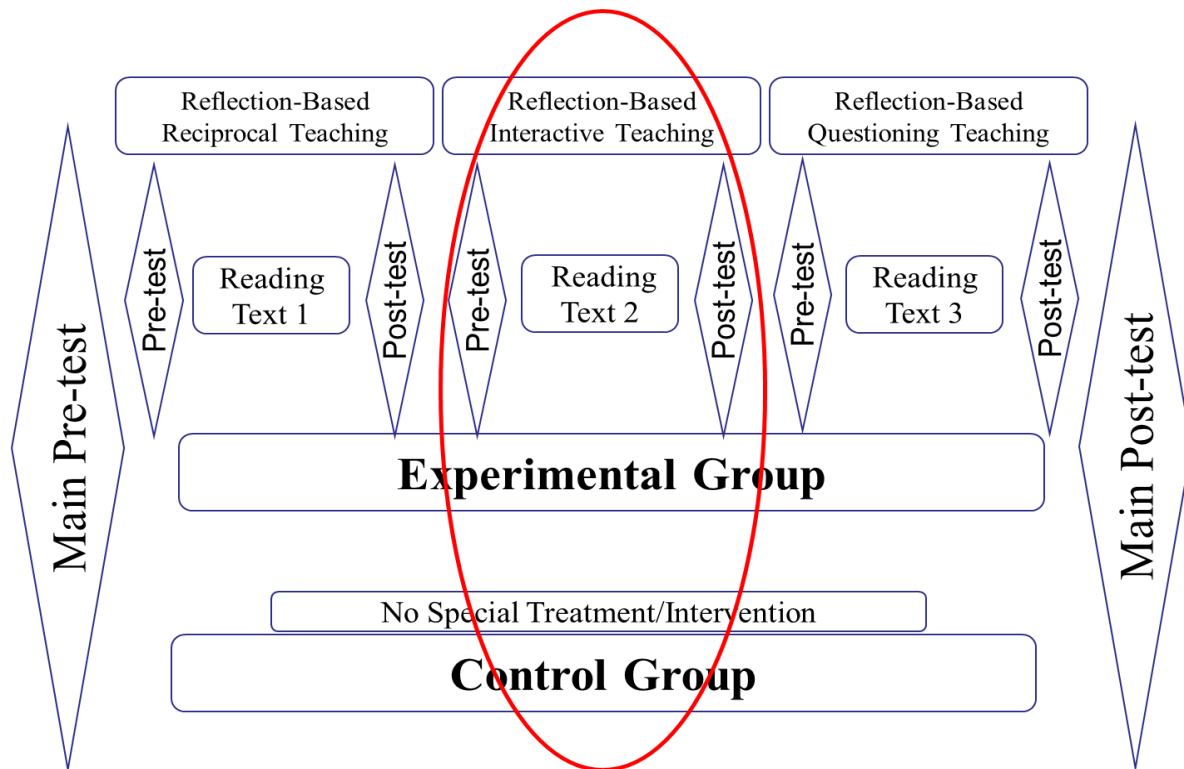
#### *Research Design, Participants, Instruments and Procedures*

As this sub-study is the second part of the main study, it was followed the procedures (quasi-experimental design) of the main study. It took five weeks (6<sup>th</sup> July – 7<sup>th</sup> August, 2020) to investigate the effectiveness of the RBIT approach in reading comprehension. The participants were 458 Grade-10 students from Myanmar, and the three main instruments used in this sub-study are pre- and post-tests (see in APPENDIX B), the student questionnaire (see in APPENDIX E), and the observation scheme (see in APPENDIX F). The detailed lesson plans were proved to the participating teachers (see in APPENDIX G) (see more information in Chapter 5). As for the general design procedure, the teachers gave the new pre-test to both experimental and control groups to investigate their initial status. After the pre-test, the teachers gave the experimental groups the treatment with the RBIT approach, but no special treatment

(just traditional teaching) to the control groups. After the treatment period of five weeks, these both experimental and control groups were given the post-test to evaluate the effectiveness of the RBIT approach in the instruction (see in Figure 6.2.2.2).

**Figure 6.2.2.2**

*General Research Design of the RBIT Approach*



*Note.* No special treatment (traditional way, bottom-up approach)

### 6.2.2.5 Findings

*Addressing RQ4: How reliable is the instrument (pre- and post-tests) for measuring students' reading comprehension achievement?*

The pre- and post-tests are the same content with different tasks for the students. The tests were also content-validated based on the Content Validity Index (CVI) with the help of six content experts. In the analysis of CVI, the number of ratings 3 or 4 is divided by the number of experts, and the items with their results which were lower than .80 were deleted (Rubio et al., 2003). Therefore, two items with lower than .80 were deleted in this sub-study. Its results are shown in Table 6.2.2.1.

**Table 6.2.2.1***Items of the Pre- and Post-tests Rated by Experts for Content Validity*

Instruments	Factors/ Components	Item- Numbers	Experts						CVI (≥ .80)*	
			1	2	3	4	5	6		
Pre- and post- tests	Literal	I (B). 1	4	4	2	4	4	4	5/6 = .83	
		I (B). 2	3	4	2	4	4	4	5/6 = .83	
		I (B). 3	4	4	3	4	4	4	6/6 = 1.00	
		I (B). 4	4	3	2	4	4	4	5/6 = .83	
		I (B). 5	3	3	3	4	4	4	6/6 = 1.00	
		I (C). 1	2	3	4	3	4	3	5/6 = .83	
		I (C). 4	3	4	3	3	2	3	5/6 = .80	
		III	4	4	4	4	4	4	6/6 = 1.00	
	Reorganizational	IV	4	3	4	4	4	3	6/6 = 1.00	
		V	2	4	4	4	3	4	5/6 = .83	
	Inferential	I (A). 1	4	3	4	3	4	2	5/6 = .83	
		I (A). 2	4	3	3	4	2	4	5/6 = .83	
		I (A). 3	3	3	4	4	4	4	6/6 = 1.00	
		I (A). 4	2	3	3	4	4	3	5/6 = .83	
		I (A). 5	4	4	4	3	3	2	5/6 = .83	
		Evaluative	I (C). 2	2	3	4	3	4	4	5/6 = .83
			I (C). 3	4	4	3	4	3	4	6/6 = 1.00
			I (C). 5	3	4	2	3	4	4	5/6 = .83
			II. 2	3	4	2	4	4	4	5/6 = .83
			II. 5	4	3	4	3	4	4	6/6 = 1.00
Appreciative	II. 1	4	2	4	3	3	3	5/6 = .83		
	II. 3	3	3	3	3	2	3	5/6 = .83		
	II. 4	3	4	3	3	4	2	5/6 = .83		

*Note.* \* Recommended value, 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant

Apart from the content validity of pre- and post-tests, its construct validity was also confirmed based on the convergent and discriminant validities (Yılmaz & Kabak, 2021). The overall internal reliability (measured by Cronbach alpha) of the test was .65, except for some components' reliability (acceptable reliability suggested by Gliner et al., 2017). In this test, the inferential and appreciative questions were more difficult than others because the students could not answer these questions directly. The students needed to think highly to interpret the answers of these questions. Therefore, the reliability of these components were low. The

convergent validity is based on the CR and AVE values of the tests. Therefore, the tests had convergent validity as the overall values (CR = .87, & AVE = .62) of the tests are consistent with the recommended values (see in Table 6.2.2.2).

**Table 6.2.2.2**

*Convergent Validity of Instruments*

Instruments	Factors	No. of Items	Cronbach's Alpha (>.60)*	Average Variance Extracted (>.50)*	Composite Reliability (>.70)*
Pre- and post- tests	Literal	6	.73	.67	.92
	Reorganizational	2	.75	.76	.86
	Inferential	5	.42	.69	.91
	Evaluative	6	.83	.60	.89
	Appreciative	4	.58	.70	.90
	Total (Overall reliability)	23	.65	.62	.87

*Note.* \*Shows an acceptable level of reliability or validity

As one part of convergent validity measures, the discriminant validity was also analyzed by comparing the values of the square root of AVE and the values of component correlation (Afari, 2013). Since all values of the square root of AVE were larger than the component correlations, it could be interpreted that the discriminant validity was constructed (Table 6.2.2.3).

**Table 6.2.2.3**

*Discriminant Validity Measures of Pre- and Post-tests*

Instruments	Components	Component Correlation Matrix				
		Literal	Reorgani- zational	Inferential	Evaluative	Appreciative
Pre- & post- tests	Literal	<b>.82*</b>				
	Reorganizational	.013	<b>.87*</b>			
	Inferential	.037	.053	<b>.83*</b>		
	Evaluative	.233	.285	.285	<b>.77*</b>	
	Appreciative	.105	.043	.041	.076	<b>.84*</b>

*Note.* \*Describes the square root of the average variance extracted value

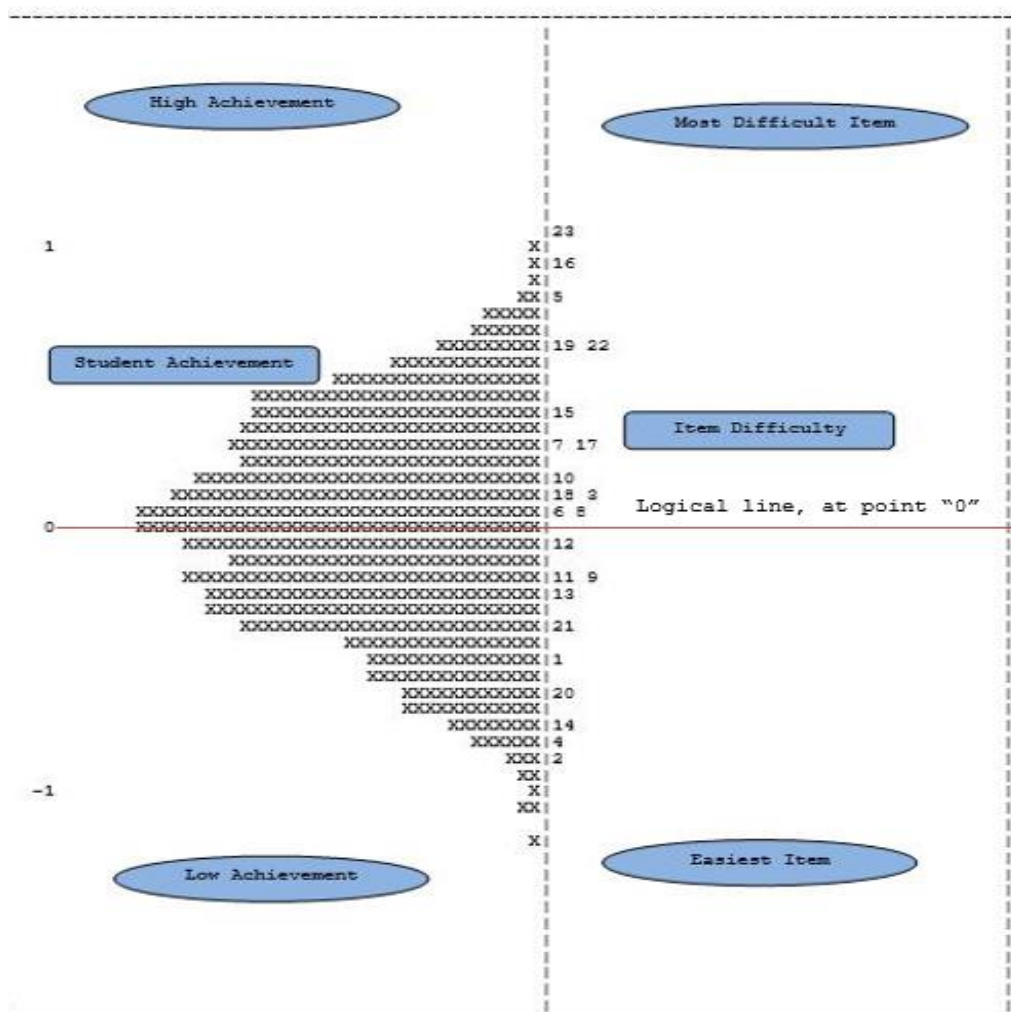
Due to the confirmation of convergent and discriminant validities of the instrument (pre- and post-tests), its construct validity has been proved, and it is reliable to be used in measuring students' reading comprehension achievement.

*Addressing RQ5: What is the effectiveness of the RBIT approach on students' reading comprehension achievement?*

To investigate the effectiveness of the RBIT approach on the students' reading comprehension achievement, their scores from pre- and post-tests were compared by the *t*-tests analysis. Before comparing these scores, the normality of the test (based on the post-test scores of the students from both experimental and control groups) is also examined by the use of Rasch analysis. The Quest program was run first for the item distribution and students' ability levels (see in Figure 6.2.2.3).

**Figure 6.2.2.3**

*Item-Person Map Indicating Students' Ability and Item Difficulty Levels*



*Note.* Each 'X' represents 1.6 cases.



In Figure (6.2.2.3), the left side shows the students' ability levels, and the other right side shows the item-difficulty levels. Students highly achieved in literal comprehension questions (items 6, 7, 8, 9, 10, and 21) and evaluative comprehension questions (items 12 and 13). The students' easiest questions are the inferential comprehension questions (2 and 4) because they are in the lower part of the graph. And the most difficult question for them is the reorganizational question (item 23). However, the overall general test distribution is almost in normal distribution. Therefore, the *t*-tests can be used to compare the pre- and post-tests scores of students' achievement to investigate the effectiveness of the RBIT approach.

To know the initial status of the students from both experimental and control groups, they were given the pre-test. Therefore, based on the data from their pre-test scores, the experimental and control groups were compared by the independent samples *t*-test. Based on its analysis, it was found that there was no significant difference ( $p > .05$ ) between the experimental and control groups (see in Table 6.2.2.4).

**Table 6.2.2.4**

*Results of Pre-tests of Experimental and Control Groups*

Groups	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	13.13	2.13	-.20	0.10	456	.30 (n.s)
Control	230	13.33	1.99		(very low)		

*Note.* Not significant (n.s)

For the pre-test, the given score is 45 points. In the analysis of the independent samples *t*-test, the two groups were almost at the same level. The mean score of the experimental group ( $M = 13.13$ ) is almost the same as that of the control group ( $M = 13.33$ ). The quantity of the difference between the two groups, effect size (Cohen's *d*), is almost zero (0.09, very low) (Kotrlik et al., 2011). They were not significantly different. Therefore, it could be interpreted that the levels of the students from both experimental and control groups were almost the same before giving the treatment with the RBIT approach.

After the investigation of the initial status of the two groups, the teachers gave students the treatment with the RBIT approach. And these two groups were given the post-test after the treatment period for five weeks. To know the difference between the experimental and control groups by the treatment with the RBIT approach, their post-test achievements were compared by the independent samples *t*-test. It was found that there was a significant difference ( $p < .001$ ) between the two groups of experimental and control (see in Table 6.2.2.5).

**Table 6.2.2.5***Results of Post-tests of Experimental and Control Groups*

Groups	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	32.77	2.99	4.84	1.29	456	<.001
Control	230	27.93	4.35		(large effect)		

The given score of the post-test is 45 points. The post-test data of the two groups were also compared to know the level of effect size (measuring the difference between the two groups) by the RBIT treatment. The effect size (Cohen's *d*) was (1.29) very large (Nakagawa & Cuthill, 2007). Therefore, it could be interpreted that students from the experimental group given by the RBIT treatment were more successful in reading comprehension than those of the control group without that treatment of the RBIT approach.

To investigate the effectiveness of the RBIT approach on students' reading comprehension achievement, the pre-test before the treatment and the post-test after the treatment were also compared by the paired samples *t*-test. The finding showed that there was a significant difference between these two tests pointing to the huge effect of the RBIT approach on students' reading comprehension achievement (see in Table 6.2.2.6).

**Table 6.2.2.6***Results from Pre-test and Post-test of Experimental Group*

Experimental group	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Pre-test	228	13.13	2.13	-19.64	7.56	227	<.001
Post-test	228	32.77	2.99		(Huge effect)		

The given points of the pre- and post-tests are the same at 45 points each. The mean score from the post-test achievement ( $M = 32.77$ ) is significantly higher than that of the pre-test score ( $M = 13.13$ ) (see in Table 6.2.2.6). It also showed the huge effect ( $d = 7.56$ ) of the RBIT teaching in reading comprehension. Therefore, it was interpreted that teaching with the RBIT approach had a significant positive effect on students' reading comprehension achievement.

To compare the effect sizes between the traditional teaching and the RBIT teaching in reading comprehension, the students' achievement from the pre- and post-tests of the control group were also compared by the paired samples *t*-tests. The results showed that there was also a significant difference between the pre-test ( $M = 12.96$  and the post-test ( $M = 27.93$ ). And its

effect size by teaching with traditional teaching was also large (Cohen's  $d = 4.46$ ) (see in Table 6.2.2.7). However, comparing it with the effect size of teaching with RBIT (Cohen's  $d = 7.56$  from Table 6.2.2.6), it could be seen clearly that the RBIT teaching was more effective than the traditional teaching method in teaching reading comprehension in ELT.

**Table 6.2.2.7**

*Results from Pre-test and Post-test of Control Group*

Experimental group	N	M	SD	MD	Effect Size (Cohen's $d$ )	$df$	Sig
Pre-test	230	12.96	1.87	-14.97	4.46	229	<.001
Post-test	230	27.93	4.36		(large effect)		

*Addressing RQ6: What are the teachers' instructional reflection on the students' reading comprehension achievement?*

Teachers reflected their instructional context by two reflective tools; student questionnaire and observation scheme. For the students' reading comprehension achievement, the post-test scores were used. There were five components in reading comprehension achievement such as literal comprehension, reorganizational comprehension, inferential comprehension, evaluative comprehension, and appreciation comprehension. Therefore, to investigate the effectiveness of teachers' reflection on the students' reading comprehension achievement, we analyzed the association between teacher's reflection (student questionnaire & observation scheme) and post-test achievement (literal, reorganizational, inferential, evaluative, and appreciative) by the analysis of SEM.

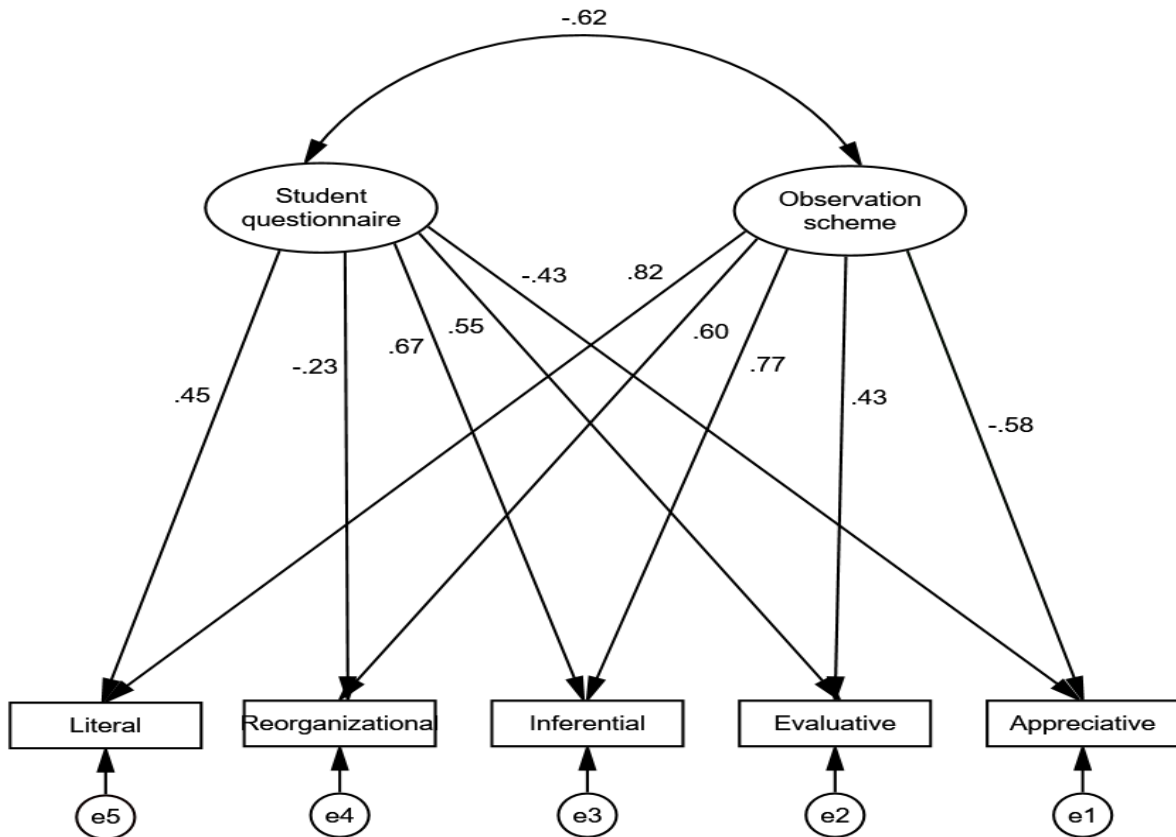
To identify the association model (Figure 6.2.2.4), the model fit indexes were investigated first. It was found that this association model was well-fitted with the data (SRMR = .03; CFI = .90; RMSEA = .07,  $\chi^2/df < 3$ ,  $p > .05$ ). Therefore, the association model could be identified to check the effectiveness of teachers' reflection on students' reading comprehension.

To interpret the effectiveness of teachers' reflection on students' reading comprehension, it was found that there were some positive correlations, except for a few negative correlations in the association model. Specifically, both student questionnaire and observation scheme had the positive impacts on the comprehension questions of literal ( $\beta = .45$  &  $\beta = .82$ ,  $p < .01$ ), inferential ( $\beta = .67$  &  $\beta = .77$ ,  $p < .01$ ), and evaluative ( $\beta = .55$  &  $\beta = .43$ ,  $p < .01$ ) respectively. However, the effect of both student questionnaire and observation scheme had no effect on the appreciative comprehension question ( $\beta = -.43$  &  $\beta = -.58$ ,  $p > .05$ ). And it was also found that student questionnaire had no effect on students' reorganizational comprehension ( $\beta = -.23$ ,  $p$

>.05). Generally, positive association impacts were more than negative ones (see in Figure 6.2.2.4). Therefore, it can be assumed that teachers' reflections had a significant positive impact on students' reading comprehension achievement.

**Figure 6.2.2.4**

*Association Model between Teachers' Reflection and Students' Achievement in Reading Comprehension*



Note. N = 1140 (five times of reflection)

*RQ7: How did teachers improve their instructional processes?*

To improve the instructional process, the teachers first reflected their instructional events involving reader, strategy, text, and task, by using two indirect reflective tools (student questionnaire and observation scheme). Second, the participating teachers checked the reflected results and looked for the instructional strengths and weaknesses. The participating teachers were different in the instructional context (different schools). Therefore, their instructional strengths and weaknesses were different. Based on their reflected results (see in Figure 6.2.2.5 and Table 6.2.2.8), the teachers individually modified their instructional

weaknesses and created better instructions for reading comprehension. Their common instructional strengths and weaknesses were as follows.

#### *Instructional Strengths Noticed by Reflections*

- Most students liked the teacher using relevant questions while teaching the reading text.
- They liked it if the teachers used the blackboard while teaching the reading text.
- Most of the students appreciated the interactive teaching strategy that the teachers used in the class.
- Most students liked teachers' techniques of stimulating prior knowledge of the students such as pre-teaching vocabulary, carousel brainstorming, and K-W-L.
- Most students said the reading text was interesting and easy to understand.
- The reading text was easy for them to summarize or take out the questions to be discussed.
- Students could hear the teachers' voices very well.
- They preferred learning by doing tasks (e.g., taking notes, underlining, highlighting) related to reading texts.
- They loved when teachers used some teaching aids such as charts and films to stimulate their schema knowledge.
- They appreciated teachers' different types of reading comprehension exercises for reflection on how much they understood the reading text.
- Teachers' activities could support students' learning effectively.
- Teachers could give a lot of opportunities to learners for applying their existing skills and knowledge.

#### *Instructional Weaknesses Noticed by Reflections*

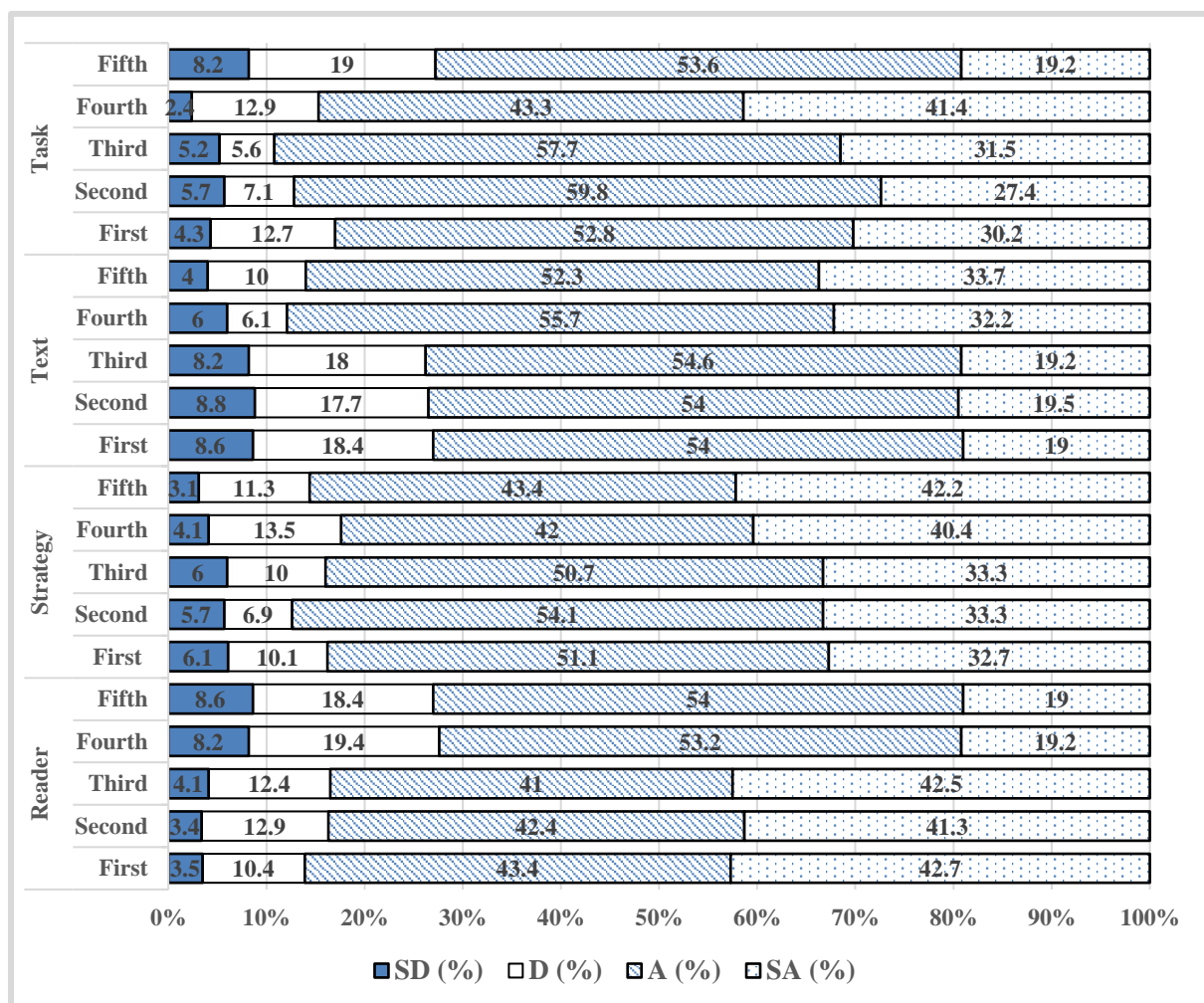
- They felt ashamed when teachers asked them to read aloud the text alone.
- Most of the students highly depended on teachers, i.e., they wanted their teachers to explain everything relating to the text.
- Almost all five teachers commonly used the technique of pre-teaching vocabulary to stimulate their background knowledge, not other techniques, in earlier sessions.
- Some students did not like the teacher's classroom management, i.e., the classroom atmosphere was full of stress, because the teachers asked their pre-teaching vocabularies individually.
- Observers suggested that the teachers should use more effective teaching aids to stimulate students' background schema.

- They suggested that teachers should often use the classroom language in English.
- Teachers should give more opportunities for developing English language use.
- Teachers should create a sensitive environment for individual learners and their communicative needs.
- Collaborative activities helped teachers' classrooms be more lively; however, the teachers needed to plan them very well.

In earlier sessions of this treatment with the RBIT approach, the teachers had many weaknesses in their teachings. However, they could amend these weaknesses into better ones later. Therefore, some improvements could be seen in later sessions of this RBIT treatment (see in Figure 6.2.2.5 and Table 6.2.2.8).

**Figure 6.2.2.5**

*Results from Student Questionnaire*



Note. N = 1140 (five times of reflection), SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

**Table 6.2.2.8***Reflective Results from Observation Scheme*

Events to be observed	Levels	Times of Observation				
		First (%)	Second (%)	Third (%)	Fourth (%)	Fifth (%)
Appropriateness of the selection of materials	1	20	0	0	0	0
	2	60	90	50	30	10
	3	20	10	50	60	70
	4	0	0	0	10	20
Appropriateness of planning the activities	1	0	0	0	0	0
	2	10	10	10	0	0
	3	60	60	80	50	90
	4	30	30	10	50	10
Appropriateness of the organization of the class	1	0	0	0	0	0
	2	30	20	0	0	0
	3	70	70	60	70	80
	4	0	10	40	30	20
Clear instructions and models of English language use	1	10	0	0	0	0
	2	40	40	30	10	0
	3	50	60	70	90	90
	4	0	0	0	0	10
Effective teacher/pupil interaction	1	0	0	0	0	0
	2	10	0	0	0	0
	3	90	70	60	50	50
	4	0	30	40	50	50
Effective organization and management of the whole class	1	0	0	0	0	0
	2	0	0	0	0	0
	3	60	50	80	40	50
	4	40	60	20	60	50
Variety of activities	1	0	0	0	0	0
	2	30	30	10	0	0
	3	70	60	60	70	50
	4	0	10	30	30	50
Effective materials	1	0	0	0	0	0
	2	50	30	0	0	0
	3	50	70	60	80	60
	4	0	0	40	20	40
Support for understanding	1	0	0	0	0	0
	2	20	0	0	0	0
	3	80	70	60	40	50
	4	0	30	40	60	50
Opportunities for learners to apply their existing skills and knowledge	1	0	0	0	0	0
	2	0	0	10	0	0
	3	60	70	70	50	50
	4	40	30	20	50	50
Opportunities for developing English language use	1	20	20	0	0	0
	2	40	40	20	20	10
	3	40	40	50	70	50
	4	0	0	10	10	40
Opportunities for peer group interaction	1	0	0	0	0	0
	2	0	0	0	40	50
	3	30	40	30	60	50
	4	70	60	70	0	0

	1	0	0	0	0	0
Effective monitoring of learning	2	10	20	10	10	10
	3	90	60	60	50	40
	4	0	20	30	40	50
	1	30	20	20	0	0
Sensitive environment for individual learners and their communicative needs	2	50	60	30	20	10
	3	20	20	50	80	90
	4	0	0	0	0	0

*Note.* N = 50 (five times of reflection)

#### **6.2.2.6 Discussion and summarization**

This sub-study addressed four research questions. The first research question is about the validity of the main instrument (pre- and post-tests). We could confirm both content and construct validities of the instrument, and its normality was also tested by the Rasch analysis. The second research question was about the effectiveness of the RBIT approach on students' reading comprehension. With the help of independent and paired samples *t*-tests, and effect size (Cohen's *d*), it was found that the RBIT approach worked better than other traditional teaching methods, and could effectively improve students' reading comprehension.

The third research question was the investigation of the effects of teachers' reflections on students' reading comprehension achievement. Therefore, the association of these two variables; teachers' reflection (student questionnaire and observation scheme) and students' reading comprehension achievement (the post-test scores) was investigated. Except for the achievement of appreciative comprehension questions, teachers' reflections had a significantly positive effect on students' reading comprehension achievement. The fourth research question was how the teachers improved their instructional processes. The teachers made improvements (created better instructions) based on the instructional strengths and weaknesses which resulted from the two reflective tools (the student questionnaire and the observation scheme).

In the earlier part of this sub-study, it was mentioned that interactive teaching alone has some weaknesses such as the struggle in stimulating students' prior knowledge (Anyiendah et al., 2019), a lack of teachers' knowledge about their students' background levels (Sun et al., 2020), and teachers' unsystematic planned activities (Xiaojing, 2019). In this sub-study, we found such kinds of instructional weaknesses; teachers' lack of use in different teaching aids to stimulate students' background knowledge, and teachers' preparation in classroom activities for effective classroom teaching. Fortunately, the reflective teachers could adapt these weaknesses into better ones in their later sessions. And they found in their reflections that they had some improvements after their adaptations of those weaknesses.



Therefore, it was seen clearly that the research questions were well-addressed in this sub-study, these research questions could dawn upon the importance of the RBIT approach in teaching reading comprehension, and the reflective teaching model (RTMRC) is very useful in modifying interactive teaching in reading comprehension. It would be better if we could prove the importance of RMRC by applying different teaching strategies (not only the interactive teaching strategy) in its framework of planning, acting, reflecting, and evaluating.

### ***6.2.3 Part Three: The Effectiveness of the Reflection-Based Questioning Approach on Students' Reading Comprehension Achievement***

This sub-study is the third part of the main research investigating the effectiveness of the Reflection-Based Questioning Approach (RBQA) on students' reading comprehension achievement. There are three components in this sub-study. The first component is about the importance of questioning for teachers' instruction, why the questioning strategy needs to be modified, the usefulness of reflective teaching to modify the questioning strategy, and the brief conceptual framework of this sub-study. The research aim, questions, participants, instruments, and a short note of this sub-study were presented in the second component. As the third or last component of this sub-study, the findings were presented and discussed carefully.

#### ***6.2.3.1 Introduction***

In teaching reading comprehension skills, teachers variously use the questioning strategy to stimulate students' critical thinking (Yuliawati et al., 2016). In fact, the questioning strategy can affect students' active learning participation (Nuryani et al., 2018), so most teachers currently use the questioning strategy to elicit students' responses, check their understanding, and control their behavior (Yuliawati et al., 2016). Furthermore, Joseph (2018) has emphasized that nearly all teachers use 35%–50% of their instructional time questioning students. Within one year, students in one classroom can receive more than 60,000 questions (approximately 12,000 questions yearly have been reported to improve students' higher-order thinking skills) (Nappi, 2017). Especially in the 21<sup>st</sup> century, questioning strategy is essential for stimulating students' critical thinking skills (Nuryani et al., 2018).

Teachers' instructional strategy, in this case questioning, aims to stimulate students' curiosity and maintain their interest by encouraging them to think and focus on the lesson's content, helping teachers clarify their confusion, elicit fundamental structures and vocabularies, check what students understand, and support their learning participation (Yuliawati et al., 2016). However, the questioning strategy does have some weaknesses that must be addressed for optimum effectiveness. Nappi's study (2017) showed that for teachers to apply the questioning strategy effectively, they need to plan effective questions for developing students' critical thinking skills. Furthermore, in another study Yuliawati et al. (2016) suggested that the questioning strategy cannot be effective and that students will be unmotivated if teachers' questioning skill is poor. Additionally, Barjesteh and Moghadam (2014) suggested improving the questioning strategy by allowing students opportunities to question the teacher. Therefore, to understand what strengths or weaknesses occur during

instruction, teachers need to reflect on instructional planning, actual classroom implementation, questions' effects, and the overall educational context.

To ameliorate the questioning strategy's weaknesses, Oo and Habók (2020) suggested that the reflective teaching model for reading comprehension (RTMRC) be used to qualify method-centered teaching. In the ELT context, these researchers defined reflective teaching as a cyclical process of *planning, acting, reflecting, and evaluating* instruction as it involves the reader, strategy, text, and task. Furthermore, reflective teaching is defined as teachers' process of reexamining or reconsidering their individual instruction (Zahid & Khanam, 2019). Essential for teachers is to evaluate their own teaching critically and use this to improve their effectiveness (Gordon, 2017). Additionally, Valdez et al. (2018) explained that reflective teaching can help improve method-centered teaching's effectiveness. The role of reflective teachers is to think, study their instructional process, and focus on the problems or weaknesses in their teaching practices (Wu & Wu, 2016).

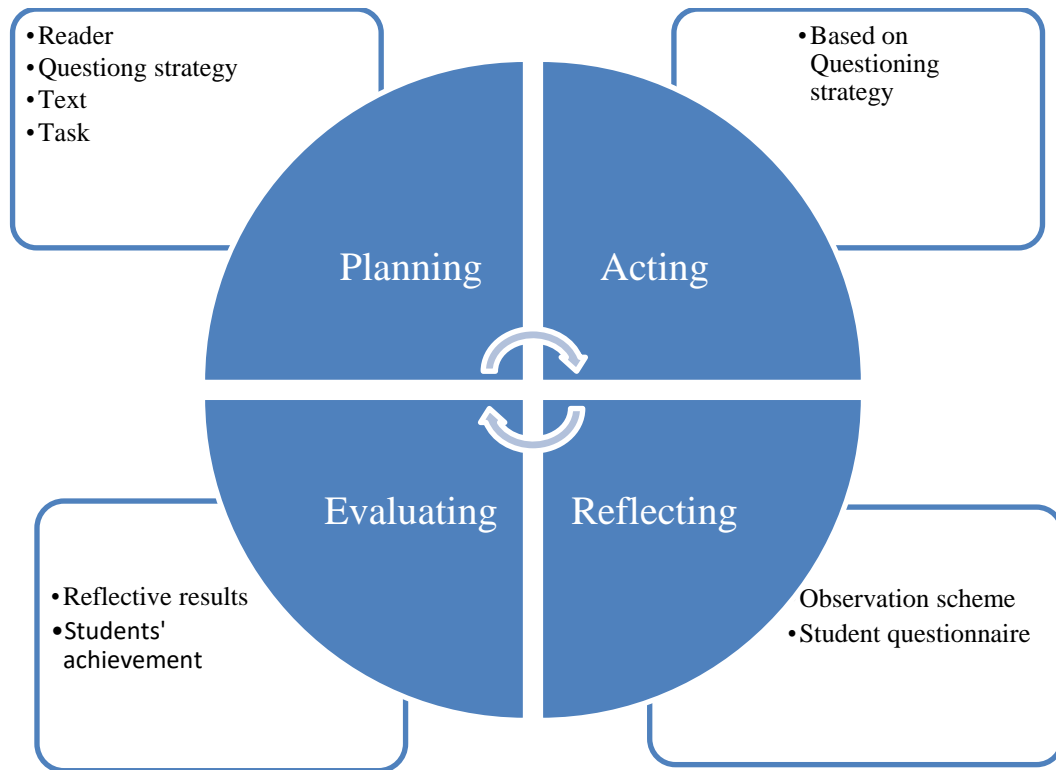
One review report "Strengthening Pre-service Teachers' Education in Myanmar (SPTE)" clearly suggested constructing "a strong and equitable education system in Myanmar that is built around reflective, competent, and qualified teachers" (UNESCO, 2020, p. 37). It also recommended that teachers have opportunities to use reflective teaching practices with learner-centered teaching strategies (UNESCO, 2020). These factors inherently call for research based on teachers' reflective practices within the instructional context. Therefore, we carefully conducted this sub-study based on the Reflection-Based Questioning Approach (RBQA) to teaching students' (English) reading comprehension skills in Myanmar.

### **6.2.3.2 Brief conceptual framework**

The teaching model, RBQA, is the application of questioning strategy in the framework of Oo and Habók's (2020) reflective teaching model for reading comprehension (RTMRC) involving four steps; *planning, acting, reflecting, and evaluating*. In fact, the questioning strategy used here is based on the *Initiate-Response-Evaluate* (IRE) model, in which the teacher first asks (*Initiates*) questions related to the text, students then answer (*Response*), and the teacher finally assesses (*Evaluates*) responses and/or provides feedback to improve their reading comprehension (Corley & Rauscher, 2013). Therefore, this RBQA instruction is the combination of benefits that come from two approaches such as the reflective teaching approach and the approach of questioning strategy (see in Figure 6.2.3.1).

**Figure 6.2.3.1**

*Conceptual Framework of the Teaching Approach, RBQA*



*Note.* Adapted from Oo and Habók (2020, p. 133)

In the *planning* stage, the teacher plans how to teach with the questioning strategy based on the IRE model (strategy): whom to teach (reader), what to teach (text), and what activities (task) students complete. In the *acting* stage, the teacher instructs students, following the planned questioning strategy procedures above. After a lesson or unit employing this strategy, during the *reflecting* stage, the teacher recalls the instructional context, effect, and outcome, using two reflective tools—the anonymous student questionnaire and the observation scheme suggested by Brookfield (2017). Finally, in the *evaluating* stage, the teacher assesses the instructional context with reflective results and reflective exercises from the text. If weaknesses appear, the teacher can ameliorate them for better results next time. Employing the RBQA instruction as explained above, students are likely to comprehend reading texts well.

### **6.2.3.3 Aim and research questions (RQ<sub>8</sub> – RQ<sub>11</sub>)**

Given the framework detailed above, this study aimed to discover aspects of RBQA that affect students' (English) reading comprehension achievement in Myanmar through the following research questions:

RQ<sub>8</sub>: How reliable is the instrument (pre- and post-tests) for measuring students' reading comprehension?

RQ<sub>9</sub>: What are the effects of the RBQA instruction on students' reading comprehension achievement?

RQ<sub>10</sub>: What is the effect of teachers' reflection practices on students' reading comprehension achievement?

RQ<sub>11</sub>: How did teachers improve their instructional processes?

#### **6.2.3.4 Method**

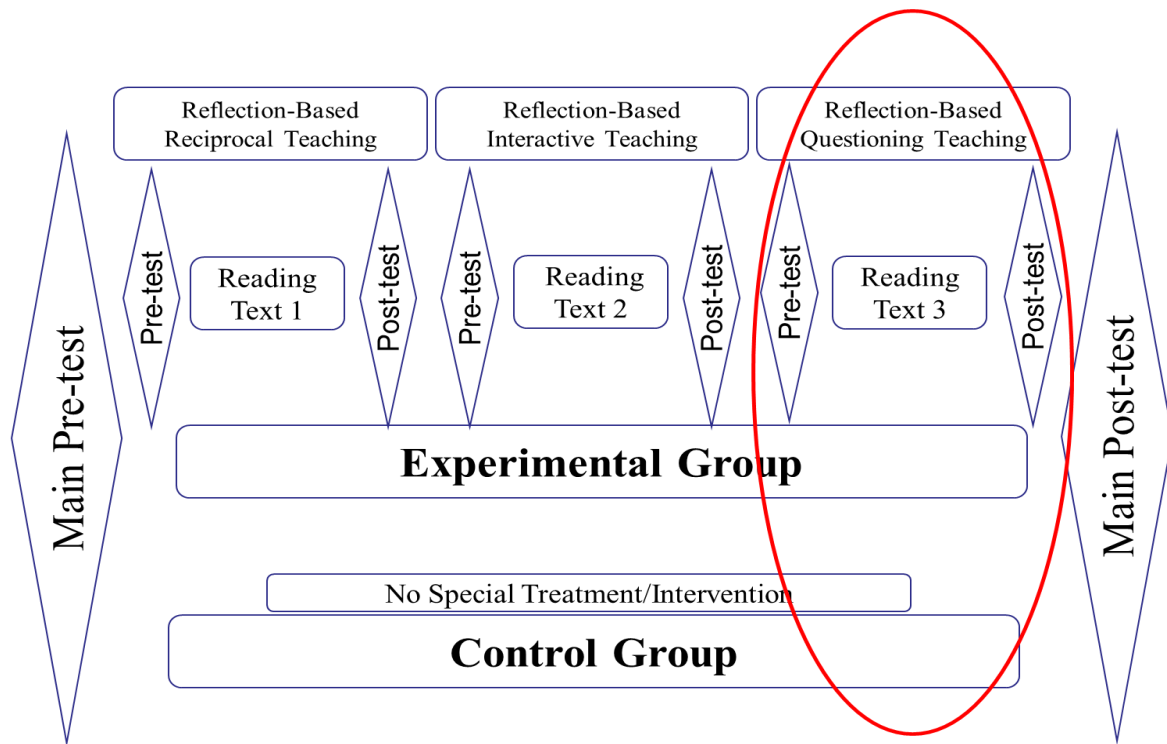
##### *Research Design, Participants, Instruments and Procedures*

This sub-study is the third part of the main study. To investigate RBQA's effectiveness on students' reading comprehension achievement, this sub-study also followed a quasi-experimental research method for 5 weeks (25 sessions) (10<sup>th</sup> August– 11<sup>th</sup> September, 2020). Participants (458 Grade-10 students from Myanmar), pre- and post-tests (see in APPENDIX C), the student questionnaire (see in APPENDIX E), the observation scheme (see in APPENDIX F), and detailed lesson plans (see in APPENDIX G) were used in this sub-study (see more information in Chapter 5).

As procedures, the pre- and post-tests were first content-validated with six content experts. Second, the selected groups (experimental and control which were already randomly selected in sub-studies 3 and 4) were given the treatment with the RBQA teaching. Before the RBQA intervention, the experimental and control groups completed pre-tests to determine their baseline status. Next, teachers of the experimental group employed the RBQA intervention and then reflected on their instructional context, aided by the student questionnaire and the observation scheme. After the RBQA intervention, the two groups completed post-tests to determine RBQA's effectiveness on students' reading comprehension achievement (see in Figure 6.2.3.2). Its participants and sampling, instruments, and procedures are described in the following sections.

**Figure 6.2.3.2**

*General Procedure of the RBQA Research Design*



*Note.* No special treatment (traditional way, bottom-up approach)

### **6.2.3.5 Findings**

*Addressing RQ<sub>8</sub>: How reliable is the instrument (pre- and post-tests) for measuring students' reading comprehension?*

In this sub-study, the pre- and post-tests were the same in content, however in different structures. Therefore, for addressing RQ<sub>13</sub>, its content validity was first validated with six content experts. The content validity index (CVI) was calculated based on the method of some researchers (Rubio et al., 2003), as dividing the number of experts who rated 3 or 4 in the judgment of the instrument by the total number of experts. The original instrument had 25 items, however, 23 items were usable after deleting two items with a lower CVI index (deleted items which were < .80 of CVI, suggested by (Newman et al., 2013) (see in Table 6.2.3.1).

**Table 6.2.3.1***Items of the Pre- and Post-tests Rated by Experts for Content Validity*

Instruments	Factors/ Components	Item- Numbers	Experts						CVI (≥ .80)*
			1	2	3	4	5	6	
Pre- and post- tests	Literal	I (B). 1	3	3	4	3	3	4	6/6 = 1.00
		I (B). 2	4	4	2	4	4	4	5/6 = .83
		I (B). 3	3	4	2	4	4	4	5/6 = .83
		I (B). 4	4	4	3	4	4	4	6/6 = 1.00
		I (B). 5	4	3	2	4	4	4	5/6 = .83
		I (C). 2	2	3	3	4	4	4	5/6 = .83
		I (C). 4	4	3	4	3	4	3	6/6 = 1.00
		IV	4	2	4	3	3	3	5/6 = .83
	Reorganizational	III	4	3	4	4	4	4	6/6 = 1.00
		V	4	4	4	4	4	4	6/6 = 1.00
	Inferential	I (A). 1	4	3	4	4	4	4	6/6 = 1.00
		I (A). 2	4	3	3	4	4	4	6/6 = 1.00
		I (A). 3	3	3	4	3	4	4	5/6 = .83
		I (A). 4	3	3	3	4	4	3	6/6 = 1.00
		I (A). 5	4	4	4	3	3	2	5/6 = .83
	Evaluative	I (C). 1	4	2	3	4	3	4	5/6 = .83
		I (C). 3	3	4	2	4	4	4	5/6 = .83
		I (C). 5	3	4	2	4	4	4	5/6 = .83
		II. 4	4	3	4	3	4	4	6/6 = 1.00
		II. 5	4	3	3	3	4	4	6/6 = 1.00
	Appreciative	II. 1	3	3	3	3	2	3	5/6 = .83
II. 2		3	4	3	3	4	4	6/6 = 1.00	
II. 3		4	2	3	3	3	3	5/6 = .83	

*Note.* \* Recommended value, 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant

The internal consistency reliability (Cronbach's alpha) of the instrument was .76 and acceptable, except for those of a few components (reorganizational and inferential). The reorganizational and inferential questions were more difficult than other types of questions for the students. They needed to understand the text very well and reorganize the sentences by their own ways. Therefore, the reliability of these components were low. For convergent validity measures, the overall value of AVE was .53 (greater than the recommended value, > .50) and its CR value for the whole test was .88 (greater than the recommended value, > .70). Except for

a few components of the test, overall convergent validity could be considered valid (see in Table 6.2.3.2).

**Table 6.2.3.2**

*Instruments' Convergent Validity and Reliability*

<b>Instruments</b>	<b>Factors</b>	<b>No. of Items</b>	<b>Cronbach's Alpha (&gt;.60)*</b>	<b>Average Variance Extracted (&gt;.50)*</b>	<b>Composite Reliability (&gt;.70)*</b>
Pre- & post-tests	Literal	8	.70	.51	.83
	Reorganizational	2	.45	.51	.85
	Inferential	5	.42	.47	.81
	Evaluative	5	.63	.46	.80
	Appreciative	3	.61	.80	.92
	Total (Overall reliability)	23 items	.76	.53	.88

*Note.* \*Shows an acceptable level of reliability or validity

For the instrument's discriminant validity measures, the square root of AVE measures was compared with inter-construct correlations from the component–correlations matrix. Since all values of the square root of the AVE (.68 – .89) were greater than all inter-construct values (.02 – .23), discriminant validities were also confirmed for this sub-study (Table 6.2.3.3).

**Table 6.2.3.3**

*Instrument's Discriminant Validity Measures*

<b>Instruments</b>	<b>Components</b>	<b>Component Correlation Matrix</b>				
		Literal	Reorganizational	Inferential	Evaluative	Appreciative
<b>Pre- &amp; post-tests</b>	Literal	<b>.71*</b>				
	Reorganizational	.043	<b>.71*</b>			
	Inferential	.191	.160	<b>.69*</b>		
	Evaluative	.142	.228	.064	<b>.68*</b>	
	Appreciative	.147	.175	.092	.020	<b>.89*</b>

*Note.* \*Describes the square root of the average variance extracted (AVE) value

Based on internal consistency reliability and on convergent and discriminant validities, the instrument (pre- and post-tests) was found reliable and valid for measuring students' reading comprehension achievement.

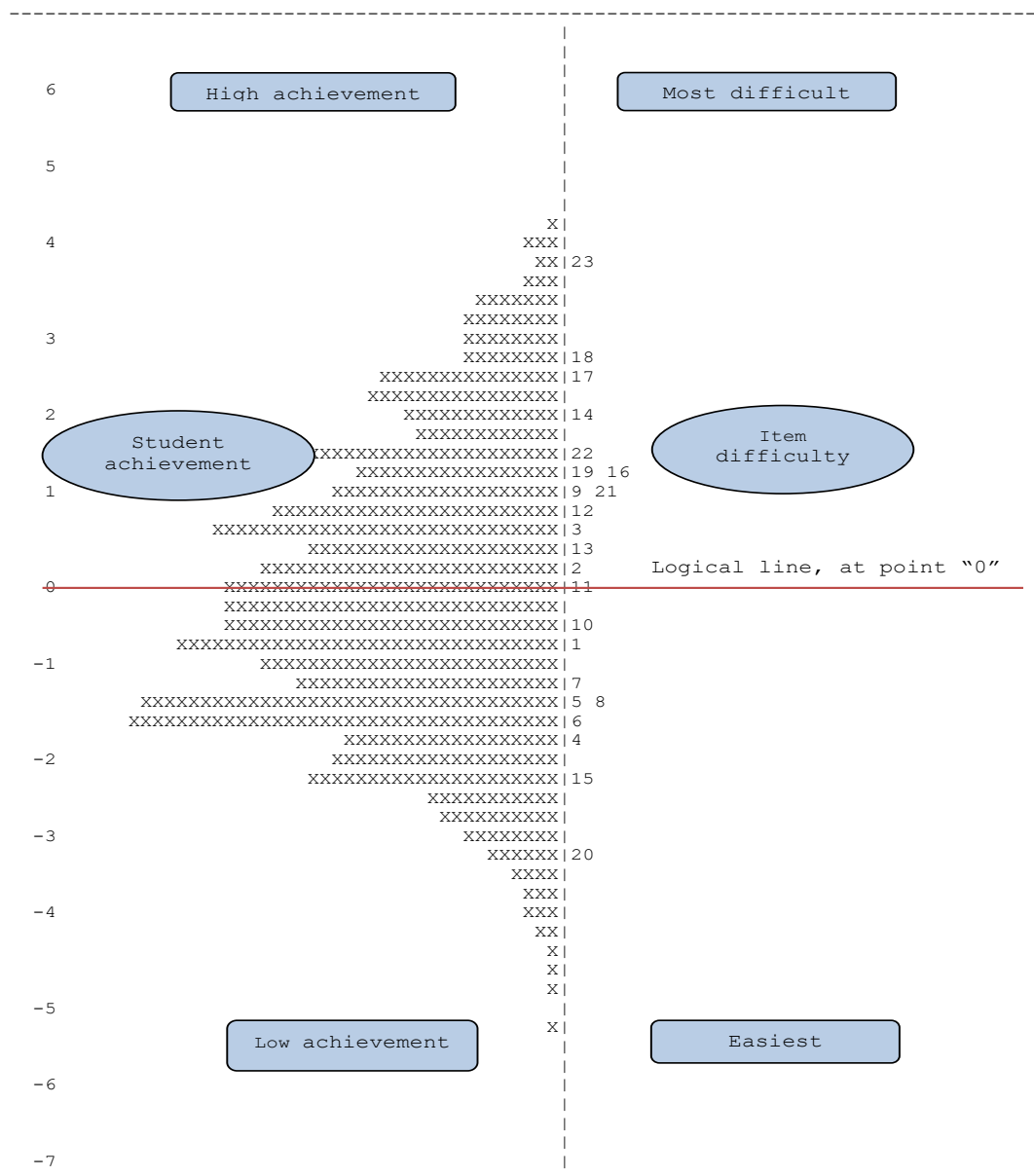


Addressing RQ9: What are the effects of the RBQA instruction on students' reading comprehension achievement?

To address this question, the achievement of the experimental and control groups was compared. Before investigating the RBQA's effectiveness, students' ability parameters and items' difficulty levels were estimated by Rasch analysis and the Quest program (based on the post-test scores of the students from both experimental and control groups). The distribution between students' ability and items' difficulty levels is shown in Figure 6.2.3.3.

**Figure 6.2.3.3**

*Item–Person Map of Students' Ability and Item-Difficulty Levels*



Note. Each 'X' represents 1.6 cases.

Figure 6.2.3.3 displays students' achievement on the left and items' difficulty levels on the right. The left's higher part shows students' higher achievement and its lower part their lower achievement; the right's higher part shows more difficult items and its lower part, easier items. Therefore, the graph shows that appreciative (items 17 and 18) and reorganizational questions (23) were the most difficult, but evaluative questions (items 15 and 20) were the easiest. Even so, most items were at mid-difficulty levels, showing students' high achievement in literal comprehension (items 6, 7, 8, 9, 10, 12, 14, and 21) and inferential comprehension questions (items 1, 2, 3, 4, and 5). However, the test's overall distribution was normal. As for the homogeneity, the overall measure of Levene statistic sig-value,  $p$ , was .073 (Levene statistic sig-value,  $p > .05$  recommended by Gliner et al., 2017). Therefore, the entire test was found normal and homogeneous.

Next, we investigated both groups' initial levels (before the RBQA intervention) as shown by pre-test data (maximum score = 45 points), which were analyzed with the independent samples  $t$ -test. No significant difference ( $p > .5$ ) appeared between the two groups, indicating nearly the same baseline pre-intervention ( $M = 13.47$ , experimental;  $M = 13.59$ , control). Table 6.2.3.4 displays these results.

**Table 6.2.3.4**

*Results of Experimental and Control Groups' Pre-tests of Reading Comprehension Skills*

Groups	N	M	SD	MD	Effect Size (Cohen's $d$ )	$df$	Sig
Experimental	228	13.47	2.11	-.11	0.06	456	.57 (n.s)
Control	230	13.59	2.18		(very low)		

*Note.* Not significant (n.s)

After administering the pre-test to both groups, the experimental group received the RBQA intervention. Then to investigate the RBQA's effectiveness, we compared the two groups' achievement using the independent samples  $t$ -test to analyze data from post-test scores (maximum score 45 points). Experimental and control groups showed a statistically significant difference ( $p < .001$ ), with the RBQA experimental group's mean score ( $M = 31.86$ ) significantly higher than the control group's ( $M = 27.04$ ) (Table 6.2.3.5). This study's results, therefore, showed that teaching with RBQA outperformed traditional instruction for reading comprehension.

**Table 6.2.3.5***Results of Experimental and Control Groups' Post-tests of Reading Comprehension Skills*

Groups	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	31.86	3.07	4.82	1.25	456	<.001
Control	230	27.04	4.46		(high)		

Further to investigate the RBQA's effectiveness in teaching reading comprehension, the experimental group's pre- and post-tests were compared by analysis of the paired samples *t*-test. Results showed a highly significant difference ( $p < .001$ ) between the experimental students' pre-test ( $M = 13.47$ ) and post-tests ( $M = 31.86$ ) mean scores. The effect size (Cohen's  $d = 6.98$ ) of teaching with RBQA between these two tests was also very large (Table 6.2.3.6). Accordingly, it could be concluded that the RBQA instruction was very effective for teaching reading comprehension.

**Table 6.2.3.6***Results of Experimental Group's Pre-test and Post-test Reading Comprehension Scores*

Experimental group	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Pre-test	228	13.47	2.10	-18.39	6.98	227	< .001
Post-test	228	31.86	3.07		(very large)		

Pre- and post-tests of the control group were also compared to inquire the effect size (the difference between the two tests) of the traditional teaching method. There was a significant difference between the pre-test ( $M = 13.62$ ) and post-test ( $M = 25.07$ ) of the control group. The effect size (Cohen's  $d$ ) of the traditional teaching method was 3.54 (see in Table 6.2.3.7). It was also a very large effect. However, comparing it with the effect size of RBQA teaching ( $d = 6.98$ , from Table 6.2.3.6), it was clearly seen that the RBQA teaching was more effective than the traditional teaching method in teaching reading comprehension in ELT.

**Table 6.2.3.7***Results of Control Group's Pre-test and Post-test Reading Comprehension Scores*

<b>Experimental group</b>	<b>N</b>	<b>M</b>	<b>SD</b>	<b>MD</b>	<b>Effect Size (Cohen's <i>d</i>)</b>	<b><i>df</i></b>	<b>Sig</b>
Pre-test	230	13.62	1.94	-11.45	3.54	229	< .001
Post-test	230	25.07	4.13		(very large)		

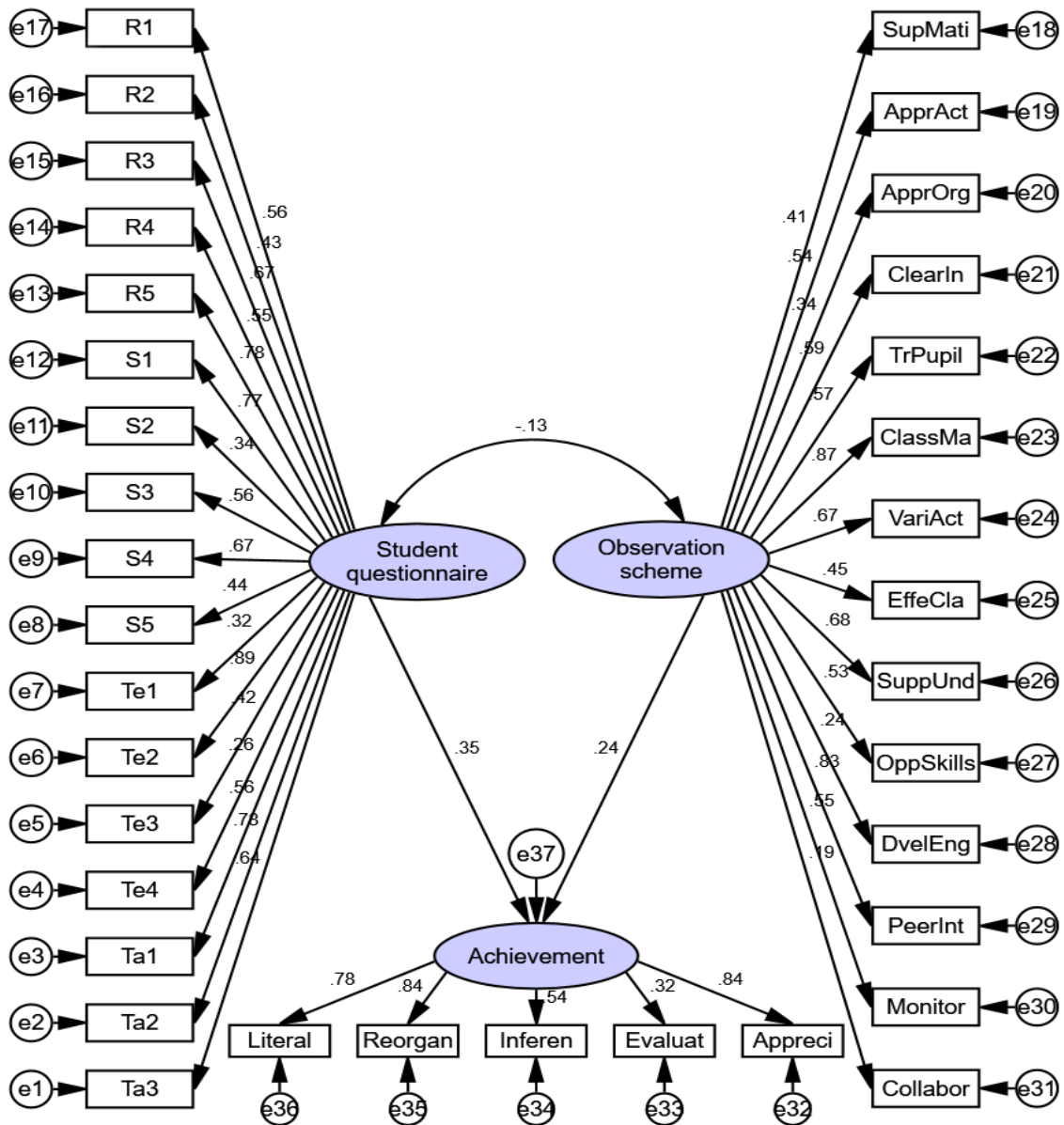
*Addressing RQ<sub>10</sub>: What is the effect of teachers' reflection practices on students' reading comprehension achievement?*

For reflections on instructional context, the teachers used two instruments, the student questionnaire (reflecting students' eye expressions/opinions) and the observation scheme (reflecting observers' eyes expressions/opinions). For students' reading comprehension achievement, we used post-test scores. Therefore, to address this question, we investigated relationships between the student questionnaire and students' achievement and between the observation scheme and students' achievement. Using IBM-SPSS Amos 23 software, SEM analysis was employed to investigate the effect of teachers' indirect reflections on students' reading comprehension achievement.

First, in the model between teachers' reflections (using the student questionnaire and the observation scheme) and students' reading comprehension achievement, no significant difference ( $p > .05$ ) was found. The ratio of Chi-square and degrees of freedom was  $< 3$  ( $\chi^2/df < 3$ ) (Kline, 2015). Model-fit measures (SRMR = .03, CFI = .97 and RMSEA = .08) were also nearly consistent with recommended values. Therefore, the model (Figure 6.2.3.4) could be determined as suitable for estimating its related measures.

**Figure 6.2.3.4**

*Association Model between Teachers' Reflection and Students' Reading Comprehension Achievement*



*Note.* N = 1140 (five times of reflection), R (reflection on Reader), S (reflection on Strategy), Te (reflection on Text), Ta (reflection on Task), SupMati (Supporting Materials), ApprAct (Appropriate Activities), ApprOrg (Appropriate Organization), ClearIn (Clear Instruction), TrPupil (Teacher-Pupils relationship), ClassMa (Classroom Materials), VariAct (Variety of Activities), EffeCla (Effective Classroom management), SuppUnd (Support Understanding), OppSkills (Opportunity for Skills), DevlEng (Development of English), PeerInt (Peer Interaction), Monitor (Monitoring), Collabor (Collaboration), Reorgan (Reorganizational), Inferen (Inferential), Evaluat (Evaluative), Appreci (Appreciative)

The association model (Figure 6.2.3.4) revealed that reflections by both the student questionnaire ( $\beta = .35, p < .05$ ) and the observation scheme ( $\beta = .24, p < .05$ ) had significant, moderately positive impact on students' achievement ( $\beta > .4$ , good;  $\beta < .4$ , moderate), as suggested by Nami and Koizumi (2013). The correlation between the student questionnaire and the observation scheme was  $-.13$ , not significant ( $p > .05$ ). However, results can be interpreted such that teachers' reflection on the instructional context was significant and had positive effects on students' reading comprehension achievement.

*RQ11: How did teachers improve their instructional processes?*

To answer this research question, the teachers first reflected on their instructional events and looked for their strengths and weaknesses in their earlier sessions of this RBQA instruction. If they found some weaknesses in their instructional processes, they were corrected and planned for the advanced instructions in future sessions. Teachers reflected on their instructional contexts with two tools, the student questionnaire, and the observation scheme. Results were considered to be the most frequent responses and shown in the tables 6.2.3.8 and 6.2.3.9.

#### *Instructional Strengths from Reflections*

Teachers found the following instructional strengths in teaching reading comprehension with RBQA:

- Teachers could create a sensitive classroom environment by interacting with students through stimulus questions.
- Teachers could monitor students' learning by asking different types of questions.
- The classroom environment was livelier when teachers assigned students peer-group interactions.
- Teachers created better teacher-student relationships.
- By asking questions in English, teachers improved students' English communication.
- By providing feedback, teachers supported students' understanding.
- Teachers could manage classroom organization well by asking questions.
- Teachers gave clear instructions and asked clear questions.
- Most students could apply their existing skills and knowledge to answer the teachers' questions.
- Almost all students appreciated their teachers using the blackboard/whiteboard often while teaching reading comprehension.
- Most students learned better during group work.

- Most students appreciated the teachers' questioning strategy.
- Almost all students mentioned that they could hear their teacher's voice well.
- Most students responded that for answering teachers' questions, the text was easy to understand.
- Students mostly enjoyed learning by doing tasks (e.g., taking notes, underlining, highlighting) related to reading texts.
- Students mostly enjoyed teachers' reading comprehension exercises on reflections.

#### *Instructional Weaknesses from Reflections*

The followings are some instructional weaknesses in reading comprehension of the RBQA instruction:

- Students felt shy when they were asked to do individual tasks (read aloud individually or asked questions individually).
- Students greatly depended on their classmates or teachers (e.g., they wanted the teacher to explain every question).
- Students mostly did not like teachers' asking more than one question at a time (and wanted to ask teachers some questions).
- When some students asked teachers questions, the teachers did not listen carefully.
- Teachers did not provide adequate wait time for some questions (relatively poorer performing students needed more time to answer).
- When using the questioning strategy, a few teachers failed to provide a variety of activities (e.g., think-pair-share, jigsaw, group discussion).
- A few teachers did not use enough effective teaching aids (e.g., charts, pictures, other technical tools).
- A few teachers needed better classroom management skills when students were assigned group work.

Based on students' eye expressions and observers' suggestions, teachers saw their instructional weak points in the earlier reflections; this qualified them to become better instructors during the later sessions of RBQA teaching. Overall, some improvements could be seen in their later instruction (see in tables 6.2.3.8 and 6.2.3.9).

**Table 6.2.3.8***Reflective Results of Student Questionnaire*

<b>Reflective events</b>	<b>Levels</b>	<b>1st Reflection (%)</b>	<b>2nd Reflection (%)</b>	<b>3rd Reflection (%)</b>	<b>4th Reflection (%)</b>	<b>5th Reflection (%)</b>
I like the English teacher to explain everything related to the reading tasks.	1	0	0	0	0	2.2
	2	0.9	0.9	0.9	0	0.9
	3	51.3	46.9	51.8	49.1	54.4
	4	47.8	52.2	47.4	50.9	42.5
I feel happy when my English teacher asks me to read the English text out loud alone.	1	1.8	2.6	0.9	0	0
	2	7	7.5	4.8	4.8	0
	3	44.7	40.4	52.6	59.6	46.9
	4	46.5	49.6	41.7	35.5	53.1
I like the English teacher to use the blackboard/chalkboard while teaching reading comprehension.	1	0	0	2.6	0.9	0
	2	0.9	0.9	5.7	2.2	4.4
	3	51.3	46.9	56.6	50.9	56.6
	4	47.8	52.2	35.1	46.1	39
When I don't understand something while reading the English text, I like to guess the meaning by connecting with other related words.	1	7.9	2.6	1.3	0	1.8
	2	18.9	9.2	3.9	1.3	3.9
	3	48.7	44.3	51.3	61	50.4
	4	24.6	43.9	43.4	37.7	43.9
I do better at reading in English when I work with others.	1	0	0	0.4	0	0.4
	2	0.9	0.9	1.3	1.3	2.6
	3	51.3	46.9	56.1	56.6	53.1
	4	47.8	52.2	42.1	42.1	43.9
I like the reading techniques the English teacher uses because they help me remember the vocabulary.	1	0.4	2.6	3.1	2.6	0.4
	2	0.4	13.6	10.1	16.7	11.4
	3	34.6	47.8	55.3	58.3	53.9
	4	64.5	36	31.6	22.4	34.2
I like the English teacher using the relevant questions while teaching the reading text.	1	0	0	0.4	0	0.9
	2	0.9	0.9	4.8	1.8	3.5
	3	51.3	46.9	58.8	57.9	52.2
	4	47.8	52.2	36	40.4	43.4
I like the strategy the English teacher uses in teaching the reading passages.	1	2.2	2.6	0.9	0.4	0
	2	11.4	10.1	2.6	7	1.8
	3	48.2	59.6	58.8	60.1	61
	4	38.2	27.6	37.7	32.5	37.3
I like the English teacher's classroom management.	1	2.6	.4	0.4	0	0
	2	8.3	1.8	3.5	0.9	0.9
	3	52.6	54.8	53.9	50.9	59.6
	4	36.4	43	42.1	48.2	39.5
I can actively participate in learning reading comprehension because I hear the English teacher's voice well.	1	1.3	0.9	1.3	0.4	1.3
	2	5.3	4.8	9.2	6.1	4.4
	3	47.4	51.8	57.5	57.5	57
	4	46.1	42.5	32	36	37.3
I like the reading text because it is very interesting when the teacher provides us with reflective questions.	1	0	0	0	0.4	0.4
	2	0.9	0.9	0.9	1.3	1.3
	3	59.6	50.9	56.1	56.6	52.6
	4	39.5	48.2	43	41.7	45.6
I like the reading text because it is easy to take out the questions from the reading passages to discuss.	1	5.7	3.1	1.8	1.3	0
	2	12.3	14.5	10.5	7	7.5
	3	47.4	53.1	52.6	57	61.8
	4	34.6	29.4	35.1	34.6	30.7



I like the reading text because it is easy to catch the main ideas to summarize it.	1	0.9	0.4	0.4	2.2	1.3
	2	7	4.8	3.9	5.7	4.8
	3	53.5	48.2	53.5	46.1	54.8
	4	38.6	46.5	42.1	46.1	39
The reading text looks difficult to understand; however, I like it because it is easy to answer reading comprehension questions after the teacher's explanation.	1	1.3	2.6	6.6	0	0
	2	13.6	4.8	15.8	7	2.6
	3	53.9	50.9	49.1	56.1	63.6
	4	31.1	41.7	28.5	36.8	33.8
I like learning by doing tasks (e.g., taking notes, underlining, highlighting) related to reading texts.	1	14	3.1	6.1	1.3	0.4
	2	26.3	11	18	14.5	11.8
	3	39	53.5	55.3	49.1	52.6
	4	20.6	32.5	20.6	35.1	35.1
I like to participate in the collaborative activities of learning reading comprehension.	1	0	0.4	0	0	0.4
	2	2.6	4.8	2.6	1.8	3.5
	3	51.8	47.8	49.1	46.5	51.3
	4	45.6	46.9	48.2	51.8	44.7
I like the teacher giving us various types of reading comprehension exercises.	1	0	3.1	5.3	0.4	0
	2	18	11.8	18	11.8	7.5
	3	52.2	55.3	53.1	52.2	53.5
	4	29.8	29.8	23.7	35.5	39

*Note.* N = 1,140 (five times reflection for experimental group), 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree

**Table 6.2.3.9**

*Reflective Results by Observation Scheme*

Reflective events	Levels	1st Reflection (%)	2nd Reflection (%)	3rd Reflection (%)	4th Reflection (%)	5th Reflection (%)
The appropriateness of the selection of materials	1	0	10	0	0	0
	2	10	30	0	20	30
	3	90	60	80	80	70
	4	0	0	20	0	0
The appropriateness of planning the activities	1	20	0	0	0	0
	2	60	90	40	0	0
	3	20	10	60	40	80
	4	0	0	0	60	20
The appropriateness of the organization of the class	1	0	0	0	0	0
	2	0	0	0	0	0
	3	70	50	30	60	20
	4	30	50	70	40	8
Clear instructions and models of English language use	1	0	0	0	0	0
	2	30	20	0	0	0
	3	70	70	80	70	70
	4	0	10	20	30	30
Effective teacher/pupil interaction	1	0	0	0	0	0
	2	0	0	0	0	0
	3	80	70	70	100	70
	4	20	30	30	0	30

Effective organization and management of the whole class	1	10	0	0	0	0
	2	40	30	10	40	0
	3	50	70	70	60	70
	4	0	0	20	0	30
A variety of activities	1	20	0	0	0	0
	2	80	0	0	0	0
	3	0	80	70	100	90
	4	0	20	30	0	10
Effective materials	1	30	0	0	10	0
	2	70	20	20	50	0
	3	0	80	80	40	100
	4	0	0	0	0	0
Support for understanding	1	0	0	0	0	0
	2	30	20	40	70	20
	3	50	70	60	30	60
	4	20	10	0	0	20
Opportunities for learners to apply their existing skills and knowledge	1	0	0	0	0	0
	2	0	0	10	0	0
	3	70	70	70	70	60
	4	30	30	20	30	40
Opportunities for developing English language use	1	0	0	0	0	0
	2	0	0	0	10	0
	3	80	70	50	60	70
	4	20	30	50	30	30
Opportunities for peer-group interaction	1	0	0	0	0	0
	2	40	30	10	0	0
	3	40	40	30	50	50
	4	20	30	60	50	50
Effective monitoring of learning	1	0	0	0	0	0
	2	10	20	10	0	10
	3	90	70	80	90	80
	4	0	10	10	10	10
A sensitive environment for individual learners and their communicative needs	1	0	0	0	0	0
	2	20	0	0	0	0
	3	40	30	40	80	50
	4	40	70	60	20	50

*Note.* N = 50 (five times observation of ten observers), 1 = very poor, 2 = poor, 3 = good, 4 = excellent

#### **6.2.3.6 Discussion and summarization**

In this sub-study, four research questions were addressed. For the first research question on the instruments' (pre- and post-tests, student questionnaire, and observation scheme) reliability and validity, their overall construct (convergent and discriminant) validities were confirmed, except for a few components of instruments that revealed low internal consistency reliabilities. Thus, these three instruments were appropriate for measuring students' reading comprehension achievement through the RBQA instruction in Myanmar.

The second research question concerned RBQA's effect on students' reading comprehension achievement. In measuring students' achievement, the test's homogeneity and normality measures were checked through Rasch analysis and Levene statistics. After

confirming these measures, we compared students' pre- and post-tests scores (paired samples *t*-test) and the experimental and control groups' post-test scores (independent samples *t*-test). In this sub-study, the RBQA intervention's effect size scores were also measured. Based on these measures, it could be concluded that teaching with RBQA significantly impacted students' reading comprehension achievement.

The third research question concerned the effects of teachers' reflection (based on the student questionnaire and the observation scheme) on students' achievement (based on post-test scores). To measure the association between teachers' reflections and students' achievement, we used IBM-SPSS Amos 23 to run SEM analysis, confirming that teachers' reflections had a significantly positive impact on students' learning of reading comprehension content.

The fourth research question deals with the way teachers improve the instructional context. Based on the instructional strengths and weaknesses resulting from the reflection, the teachers modified their instruction to be appropriate with the students' preferences and the observers' good grades.

In fact, the RBQA instruction combines approaches of Oo and Habók's (2020) reflective teaching model for reading comprehension (based on *planning, acting, reflecting, and evaluating*) and the questioning strategy (based on the IRE model). Study results show that this combination approach, RBQA, can greatly benefit both teachers and students during reading comprehension instruction.

During RBQA instruction, teachers reflected on their instructional context through the student questionnaire and the observation scheme. Two example items from the questionnaire were: "*I can actively participate in learning reading comprehension because I hear the English teacher's voice well*" and "*I like the English teacher's classroom management.*" However, a few student responses revealed some weaknesses, for example, there were not enough effective teaching aids, and poor classroom management. After receiving such feedback from the reflection tools, teachers did improve later instructional sessions (e.g., by using some suitable teaching aids and taking care of the classroom management). It was because the students' preferred percentages of "strongly disagree and disagree" from these items-reflection gradually decreased, and their preferred percentages of "agree and strongly agree" gradually increased in later reflection times (see in tables 6.2.3.8 and 6.2.3.9). From the observation scheme, teachers also noted some weaknesses: "*lack of different activities*" and "*unclear questioning,*" so in later sessions, they enhanced their questioning strategy.

While teachers reflected on instructional events through reflective tools, students reflected

on their learning effectiveness with the help of teachers' questions related to the reading text. Because students' higher-level understanding emerges from reflections on learning effectiveness (Mosley Wetzel et al., 2017), RBQA was very helpful for students' understanding of the reading text. Apart from this type of reflection, students also had opportunities to express their opinions on teachers' instructional strategies, learning activities, the reading text, and their own feelings during lessons and learning. In Myanmar culture, students normally refrain from saying "No" when teachers ask, "*Do you understand me?*"; "*Do you like/understand the reading text?*"; "*Do you feel ashamed to read out loud by yourself?*"; or "*Do you like this teaching strategy?*" However, in fact, in responding anonymously to the student questionnaire, they clearly expressed the likes and dislikes of teachers' instructional context.

Some studies of questioning strategy that *did not employ* teacher's reflection recommended certain points to consider. For instance, Nuryani et al. (2018) reported that teachers did not notice students' eagerness to ask the teacher questions, a failure that could surely cause students to lose interest. Additionally, the teacher should plan various levels of questions; without doing so, questions tend to be at only low or basic levels (Nappi, 2017). Teachers should ask questions but also provide students thinking time, and they should certainly not answer their own questions (Yuliawati et al., 2016). When students respond to questions, teachers should listen attentively, reply positively (e.g., thumbs-up, nodding in agreement, positive comments), and if appropriate, provide feedback (Nuryani et al., 2018). In this study of RBQA teaching, such events and/or weaknesses also occurred in earlier sessions. However, with the help of Oo and Habók's (2020) RTMRC, teachers could diagnose those weaknesses, correct them, and plan better instruction for later sessions.

In a nutshell, however, this study confirmed that teaching with RBQA profoundly and positively impacted students' English reading comprehension in Myanmar. It proved that Oo and Habók's reflective teaching model could well employ the questioning strategy in teaching students reading comprehension skills. Therefore, for future research based on this study, we believe that any teaching strategy can be examined and improved by applying the reflective teaching model, a cyclical process of *planning, acting, reflecting, and evaluating*. In the *reflecting* stage, teachers can use various reflective tools, for instance, keeping a diary, tape recording, portfolios, and so on. Such RBQA allows both teacher and students to reflect on the teaching-learning process.

#### ***6.2.4 Overall Study: Effects of the Reflective Teaching Model for Reading Comprehension (RTMRC) on Students' Reading Comprehension Achievement***

This last sub-study is about the whole part of the main research (combination of the effects of three teaching approaches; RBRT, RBIT, and RBQA investigating the effectiveness of reflective teaching model for reading comprehension (RTMRC) in ELT of Myanmar context.

##### ***6.2.4.1 Introduction***

Currently, reflective teaching is popular in teacher education. Teachers' reflections are essential for their professional development and students' optimal development in education (Fatemipour, 2013). Reflections help teachers to understand complexities and troublesome experiences and subsequently, transform them into more enhanced new ones and experiences (Hulsman et al., 2009). Without reflections on classroom practices and actions, teachers are unable to bridge the gap between their planned theory and practical experiences in classroom settings (Pacheco, 2014). Therefore, reflective teaching is imperative for all teachers to enable them to teach effectively.

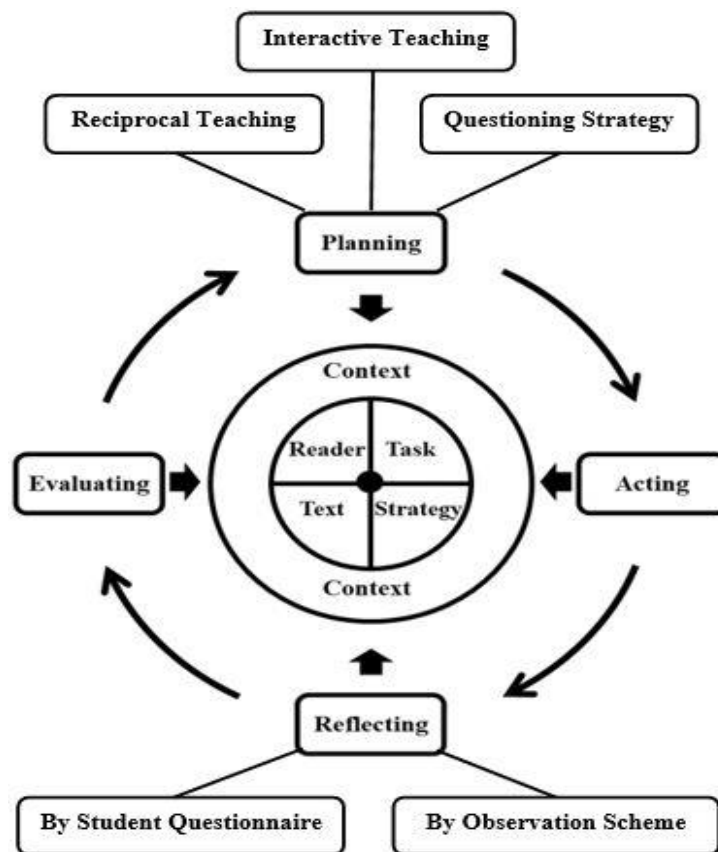
Various studies have shown that different teachers employ various teaching strategies to teach reading comprehension effectively. Studies have been conducted on methods such as reciprocal teaching (Okkinga et al., 2018), interactive teaching (Anyiendah et al., 2019), and questioning (Barjesteh & Moghadam, 2014). The results of these studies have concurred that the particular teaching method employed had a significant effect on students' reading comprehension. However, it is noteworthy that there is no perfect teaching method because "there are many factors that influence how teachers approach their work and which particular strategies they employ to achieve their goals" (Richards & Lockhart, 2007, p. 97). Therefore, Aliakbari and Adibpour (2018) suggested that teachers should consider reflective practices to support their method-centered teaching. Valdez et al. (2018) further asserted that reflective teaching is an appropriate method as the latter encourages teachers to revise and modify their teaching strategies. This encouraged us to apply the reflective teaching approach in that context. Accordingly, the purpose of this study was to apply the three reading strategies of reciprocal teaching, interactive teaching, and questioning in the framework of the reflective teaching model for reading comprehension (RTMRC) so as to examine its effectiveness for students' reading comprehension achievement.

### 6.2.4.2 Brief conceptual framework

The RTMRC proposes teachers need to follow the following four steps in their instructional periods: planning, acting, reflecting, and evaluating. Furthermore, three instructional strategies were adopted, namely, reciprocal teaching, interactive teaching, and questioning to teach reading comprehension (Figure 6.2.4.1) when employing RTMRC.

**Figure 6.2.4.1**

*Conceptual Framework by the RTMRC Approach*



*Note.* Adapted from Oo and Habók (2020, p. 133; 2021, p. 4)

Reciprocal teaching, which was elaborated by Palincsar and Brown (1984), is an instructional reading strategy based on the four reciprocal dialogs of predicting, questioning, clarifying, and summarizing so as to enhance students' reading comprehension skills (Rodli & Prastyo, 2017). Interactive teaching is a hybrid approach of interaction between identifying meanings based on grammatical knowledge about words, phrases, clauses, sentence syntax, and texts in detail (bottom-up approach) (Ardhani, 2016) and gleaning meanings by integrating their background schema of the texts they read and their reading knowledge given in texts (top-down approach) (Birch, 2002). And Questioning, which originated from Socrates more than 2,000 years ago, is a teacher's questioning strategy that is based on the Initiate-Response-

Evaluate model in which the teacher first asks (initiates) the students' questions related to the text, the students answer (response) the teacher's question, and the teacher assesses (evaluates) the students' responses or gives them feedback so as to enhance their reading comprehension (Corley & Rauscher, 2013).

In the *planning* step (figure 6.2.4.1), teachers employ the above three instructional strategies; reciprocal teaching, interactive teaching, and the questioning strategy to plan their respective teaching procedures in detail. In the *acting* step, teachers employ the three strategies to teach their students. The *reflecting* step involves teachers reflecting on the instructional context, which includes reader, strategy, text, and task in accordance with a student questionnaire and observation scheme (Brookfield, 2017). In the *evaluating* step, teachers evaluate the student questionnaire and observation scheme as formative assessment and students' achievements as a summative assessment.

#### **6.2.4.3 Aim and research questions (RQ<sub>12</sub> – RQ<sub>17</sub>)**

The purpose of this study was to examine the effectiveness of RTMRC on students' English reading comprehension achievement in Myanmar. Accordingly, the following research questions were formulated:

RQ<sub>12</sub>: What is the effect of RTMRC on students' reading comprehension?

RQ<sub>13</sub>: Is there any significant difference between schoolboys' and schoolgirls' reading comprehension achievement?

RQ<sub>14</sub>: Is there any significant difference among the five selected schools regarding students' reading comprehension achievement?

RQ<sub>15</sub>: Which teaching strategy is most appreciated by the students during the RTMRC treatment?

RQ<sub>16</sub>: What is the effect of teachers' reflections on students' reading comprehension achievement?

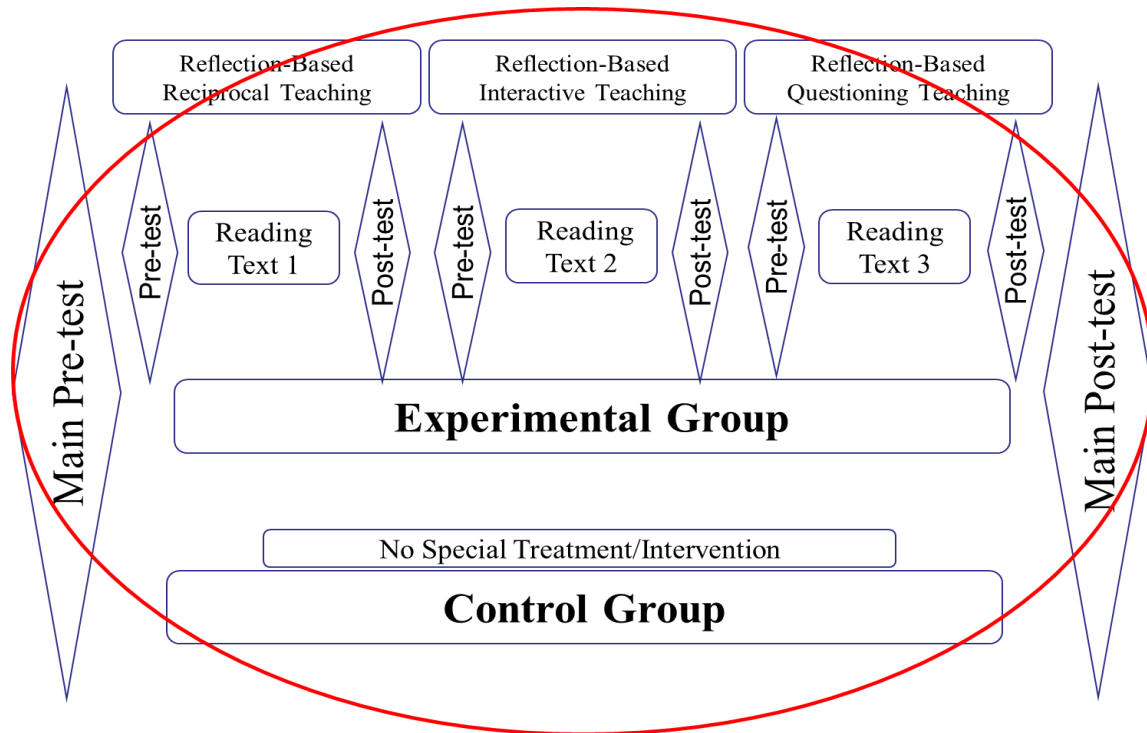
RQ<sub>17</sub>: What are teachers' reflections on instructional context (reader, strategy, text, and task) when RTMRC is employed?

#### **6.2.4.4 Method and brief procedure**

Research method of this study (including, research design, sampling, participants, instruments, and procedures) was specifically described in Chapter 5. Its brief procedure is described as follows (Figure 6.2.4.2).

**Figure 6.2.4.2**

*General Design Procedures of the RTMRC Treatment*



*Note.* No special treatment (traditional way, bottom-up approach)

The main study was conducted in five selected schools (upper secondary level). The two groups had already been assigned at random. Before employing RTMRC, both the experimental and control groups completed pre-tests to determine the participants' initial status. Subsequently, the experimental groups were taught by employing RTMRC. In accordance with Brookfield (2017), the two instruments were used, namely, the student questionnaire and observation scheme to enable the teachers to reflect on their instructional process. During the treatment period, the teachers used three teaching strategies: reciprocal teaching, interactive teaching, and questioning. This questionnaire was utilized fifteen times, specifically, five times for each teaching strategy for the experimental groups, but not for the control groups. And the observers randomly observed each teacher's teaching-learning process fifteen times, specifically, five times for each teaching strategy during the intervention period. The teachers also gave the revised/reflective questions to the students to allow them to reflect on their own texts. The control groups were taught using only traditional teaching methods. After RTMRC was employed, all the groups completed the post-test (see more information in Chapter 5).



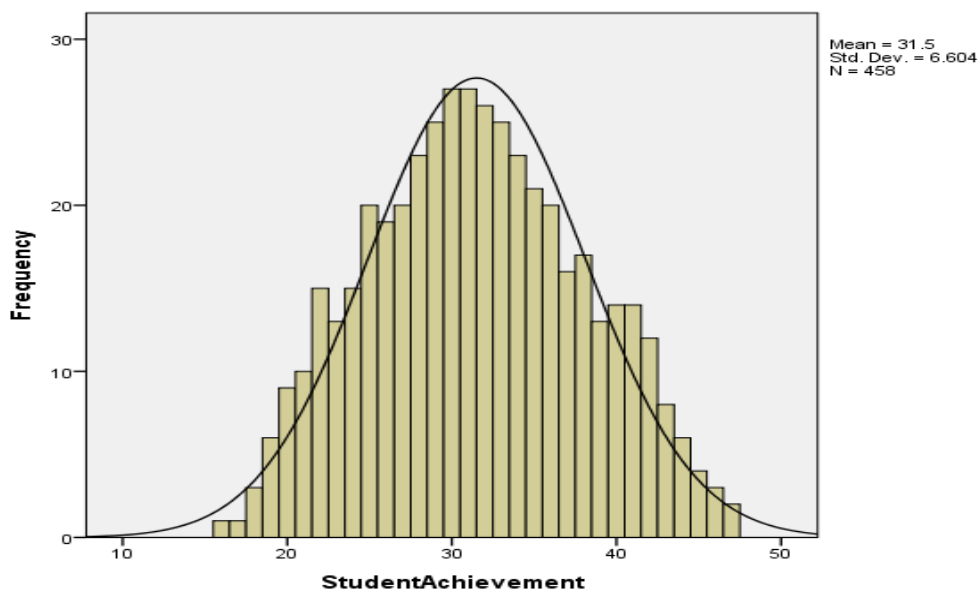
### 6.2.4.5 Findings

Addressing RQ<sub>12</sub>: What is the effect of RTMRC on students' reading comprehension?

Pre- and post-tests were mainly used to examine the students' reading comprehension achievement. To answer this research question, it was essential to investigate whether the test was in normality and homogeneity. Therefore, the frequency distribution of the test was analyzed by the IBM SPSS 23 application. The student's performance in the test was normal ( $Z = 0.42, p > .05$ ). The given score of the achievement test was 50 points. The students' achievement results were described in frequency distribution (see in Figure 6.2.4.3).

**Figure 6.2.4.3**

*Students' Achievement in Frequency Distribution*



*Note.* N = 458 students (the post-test score was used as student achievement)

Among the scores the students (N = 458) achieved in their post-test, the mean score is 31.5 out of the given score (50 points). The standard deviation of the test was 6.60. The curve was in bell shape and approximately normal. We also investigated the test homogeneity by Levene Statistic. Gliner et al. (2017) suggested that if its significant value is greater than .05 ( $p > .05$ ), the test is not significant, however, it is homogeneous. In this achievement test, Levene statistical sig-value,  $p$ , was .102 ( $p > .05$ ). Therefore, it was quite safe to say that the whole test was normal and homogeneous.

The independent samples  $t$ -test was employed to determine the initial differences between the experimental and control groups before employing the RTMRC approach in the experimental groups (Table 6.2.4.1).

**Table 6.2.4.1***Results of Pre-tests of Experimental and Control Groups*

Groups	N	M	SD	MD	Effect size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	13.07	2.13	-.09	-0.04	456	.648 (n.s)
Control	230	13.16	2.12		(very low)		

*Note.* Not significant (n.s)

The results of the independent samples *t*-test revealed no significant difference ( $p > .05$ ) between the experimental and control groups. The maximum score of the pre-test was 50 points. The mean scores of both experimental and control groups were almost the same ( $M = 13.07$ ,  $SD = 2.13$ ; and  $M = 13.16$ ,  $SD = 2.12$ ). There was no effect size (quantifying the differences between the two groups). Therefore, it could be said that the initial levels of the two groups before the treatment with the RTMRC were almost the same.

After employing the RTMRC, we investigated whether there was a significant difference between the experimental and control groups (Table 6.2.4.2).

**Table 6.2.4.2***Results of Post-tests of Experimental and Control Groups*

Groups	N	M	SD	MD	Effect Size (Cohen's <i>d</i> )	<i>df</i>	Sig
Experimental	228	35.19	5.16	3.73	1.00	456	< .001
Control	230	30.46	4.16				

The results of the independent samples *t*-test showed a significant difference ( $p < .001$ ) between the experimental and control groups. The mean score of the experimental group ( $M = 35.19$ ,  $SD = 5.16$ ) was significantly higher than that of the control group ( $M = 30.46$ ,  $SD = 4.16$ ). The effect size of the RTMRC approach was also high (Cohen's  $d = 1.00$ ). Therefore, one may deduce that employing RTMRC to teach was preferable to other traditional teaching methods.

A paired sample *t*-test was also used to compare the results from the pre- and post-tests of the experimental groups for investigation of the effectiveness of RTMRC (Table 6.2.4.3).

**Table 6.2.4.3***Results from Pre-test and Post-test of Experimental Group*

<b>Experimental group</b>	<b>N</b>	<b>M</b>	<b>SD</b>	<b>MD</b>	<b>Effect size (Cohen's <i>d</i>)</b>	<b><i>df</i></b>	<b>Sig</b>
Pre-test	228	13.07	2.13	-22.12	5.60	227	< .001
Post-test	228	35.19	5.16		(very large)		

The results of the paired samples *t*-test demonstrated that there was a highly significant difference ( $p < .001$ ) between the pre- and post-tests of the experimental group. The mean score of the post-test ( $M = 35.19$ ,  $SD = 5.16$ ) was significantly higher than that of the pre-test ( $M = 13.07$ ,  $SD = 2.13$ ). The effect size of the RTMRC approach was also high (Cohen's  $d = 5.60$ ). One may deduce that the RTMRC approach had a significant effect on students' reading comprehension.

The pre- and post-tests of the control group was also compared to perceive the effect size of the traditional teaching method. The data were analyzed by the paired samples *t*-test. The result showed a significant difference ( $p < .001$ ) between the pre- and post-tests. The effect size by teaching with the RTMRC (Cohen's  $d = 5.60$  from Table 6.2.4.3) is higher than that by teaching with the traditional teaching method (Cohen's  $d = 4.21$  from Table 6.2.4.4). Therefore, there was nothing wrong to say that teaching with RTMRC was more effective than the traditional teaching method.

**Table 6.2.4.4***Results from Pre-test and Post-test of Control Group*

<b>Experimental group</b>	<b>N</b>	<b>M</b>	<b>SD</b>	<b>MD</b>	<b>Effect size (Cohen's <i>d</i>)</b>	<b><i>df</i></b>	<b>Sig</b>
Pre-test	230	12.77	2.18	-22.12	4.21	227	< .001
Post-test	230	28.44	4.78		(very large)		

*Addressing RQ<sub>13</sub>: Is there any significant difference between schoolboys' and schoolgirls' reading comprehension achievement?*

This research question was to investigate whether the RTMRC teaching can have significant impact on the gender difference in reading comprehension. Using the post-test scores as the students' achievement, the schoolboys and the schoolgirls were compared in their reading comprehension achievement. We used the independent samples *t*-test to analyze their resulting data. It was surprisingly found that there was no significant difference ( $p > .05$ ) between

schoolboys and schoolgirls from both groups of experimental and control regarding their achievement (see in Table 6.2.4.5).

**Table 6.2.4.5**

*Comparison of Schoolboys' and Schoolgirls' Achievement in Both Groups*

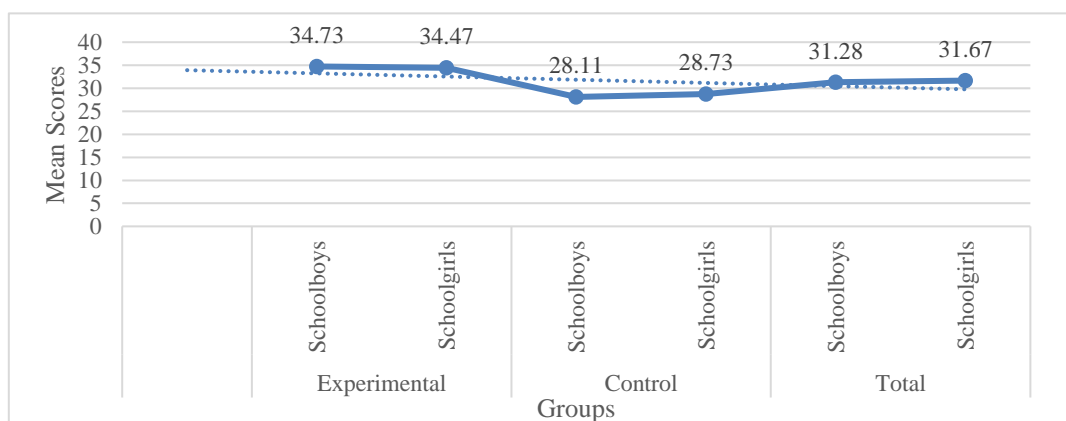
Groups	Gender	N	M	SD	MD	Effect size (Cohen's <i>d</i> )	df	Sig
Experimental	Schoolboys	97	34.73	7.07	-.27	-.04 (very low)	226	.761
	Schoolgirls	131	34.47	6.56				(n.s)
Control	Schoolboys	106	28.11	5.34	-.61	-.03 (very low)	228	.333
	Schoolgirls	124	28.73	4.23				(n.s)
Total	Schoolboys	203	31.28	7.04	-.52	-.06 (very low)	456	.530
	Schoolgirls	255	31.67	7.24				(n.s)

*Note.* Not significant (n.s)

Out of the given scores (50 points), however, the average score of the schoolboys and schoolgirls from the experimental group is ranged from 34.47 to 34.73, and higher than those of schoolboys and schoolgirls from the control group (ranged from 28.11 to 28.73). The total average score of both schoolboys and school girls was also almost the same (31.28 points for schoolboys and 31.67 points for schoolgirls). Therefore, it was clearly seen that there was no significant difference between schoolboys and schoolgirls in all groups regarding their reading comprehension achievement (see in Figure 6.2.4.4). Based on the results from the experimental group of this study, it was found out that there was no significant difference between the genders by the RTMRC teaching.

**Figure 6.2.4.4**

*Comparison of Reading Comprehension Achievement between Schoolboys and Schoolgirls*



*Addressing RQ<sub>14</sub>: Is there any significant difference among the five selected schools regarding students' reading comprehension achievement?*

In this study, the participants were from five different schools (selected in the sample). Therefore, the teachers have different instructional school contexts. This research question was addressed to investigate how much these schools (different contexts) were different regarding students' reading comprehension achievement by teachers' RTMRC teaching.

To answer this research question, the selected schools were compared regarding students' reading comprehension achievement. The results were analyzed by one-way ANOVA. It was found that the overall test among the schools had some significant differences ( $F = 22.87, p < .001$ ). Among all five selected schools, the upper secondary school (Yan Naing) is significantly lower ( $p < .01$ ) than other schools even though the other four schools are not significantly different from one another ( $p > .05$ ) by the RTMRC teaching. This reason might result from the low availability of teaching-learning facilities in the school (Because the school, Yan Naing, is situated on the outskirts of Sagaing). This finding is similar to that of the previous studies (Hu & Liu, 2020; Zhao, 2012) focusing on the impacts of different instructional situations that make the students' achievement different.

**Table 6.2.4.6**

*Students' Achievement in Five Selected Schools*

Schools	N	M	SD	F	Sig
Upper Secondary School (1)	90	34.16	7.14	22.87	<.001
Upper Secondary School (2)	91	35.00	6.38		
Upper Secondary School (3)	91	31.12	6.93		
Upper Secondary School (Yan Naing)	92	27.89	4.32		
Upper Secondary School (Practicing)	94	29.47	5.03		
Total	458	31.50	6.60		

*Addressing RQ<sub>15</sub>: Which teaching strategy is most appreciated by the students during the RTMRC treatment?*

During the treatment with the RTMRC approach to teaching students the English reading comprehension text, the teachers used three teaching strategies; reciprocal teaching, interactive teaching, and questioning. While the teachers were applying these strategies, they reflected their instructional context fifteen times (five times for each teaching strategy) through the student questionnaire completed by the students based on their learning preferences. These

three teaching strategies were compared based on the students' learning preferences. The results were analyzed by the descriptive statistics in percentage. In the analysis of one item, "I like the strategy the English teacher uses in teaching the reading passages" based on the students' learning preferences (total of 'agree' and 'strongly agree'), it was found that There was also a significant difference among these strategies ( $p = .03$ ,  $*p < .05$ ) by the ANOVA analysis, and the students liked the interactive teaching strategy most (83.2% in the reciprocal teaching, 93.2% in the interactive teaching, and 89.5% in the questioning strategy). Furthermore, the average scores of students' learning preferences (total of Agree and Strongly Agree) in these three teaching strategies were 86.13% in the reciprocal teaching strategy, 90.77% in the interactive teaching strategy, and 90.57% in the questioning strategy respectively (see in Table 6.2.4.7). And concerning the multiple comparison among these three strategies (by Post Hoc Tests), it was found that the reciprocal teaching strategy is significant different from both interactive teaching ( $**p = .007$ ,  $< .01$ ) and questioning strategy ( $**p = .008$ ,  $< .01$ ). However, there was no significant difference ( $p > .05$ ) between the interactive teaching and questioning strategy. Although the students liked all three strategies, the interactive teaching strategy was the one the students liked most among these three strategies ( $p = 001$ , by the ANOVA analysis).

**Table 6.2.4.7**

*Students' Learning Preferences on Three Teaching Strategies*

Strategies	Factors	Items	Average levels (%)				SD+D (%)	A+SA (%)	Average (%) of (A+SA)
			SD	D	A	SA			
Reciprocal Teaching	Reader	5	2.68	10.52	50.08	36.72	13.20	86.80	86.13
	Strategy	5	1.96	7.82	60.68	29.54	9.78	90.22	
	Text	4	3.05	15.03	59.15	22.77	18.08	81.92	
	Task	3	3.16	11.25	61.73	23.86	14.41	85.59	
Interactive Teaching	Reader	5	3.35	2.99	47.76	45.9	6.34	93.66	90.77
	Strategy	5	3.06	5.40	50.72	40.82	8.46	91.54	
	Text	4	1.42	7.58	52.05	38.95	9.00	91.00	
	Task	3	3.40	9.74	54.76	32.10	13.14	86.86	
Questioning	Reader	5	3.10	2.50	47.66	46.74	5.60	94.40	90.59
	Strategy	5	1.86	4.62	50.56	42.96	6.48	93.52	
	Text	4	2.53	6.90	52.37	38.20	9.43	90.57	
	Task	3	3.53	12.57	50.80	33.10	16.10	83.90	

*Note.* SD (Strongly Disagree), D (Disagree), A (Agree), SA (Strongly Agree)

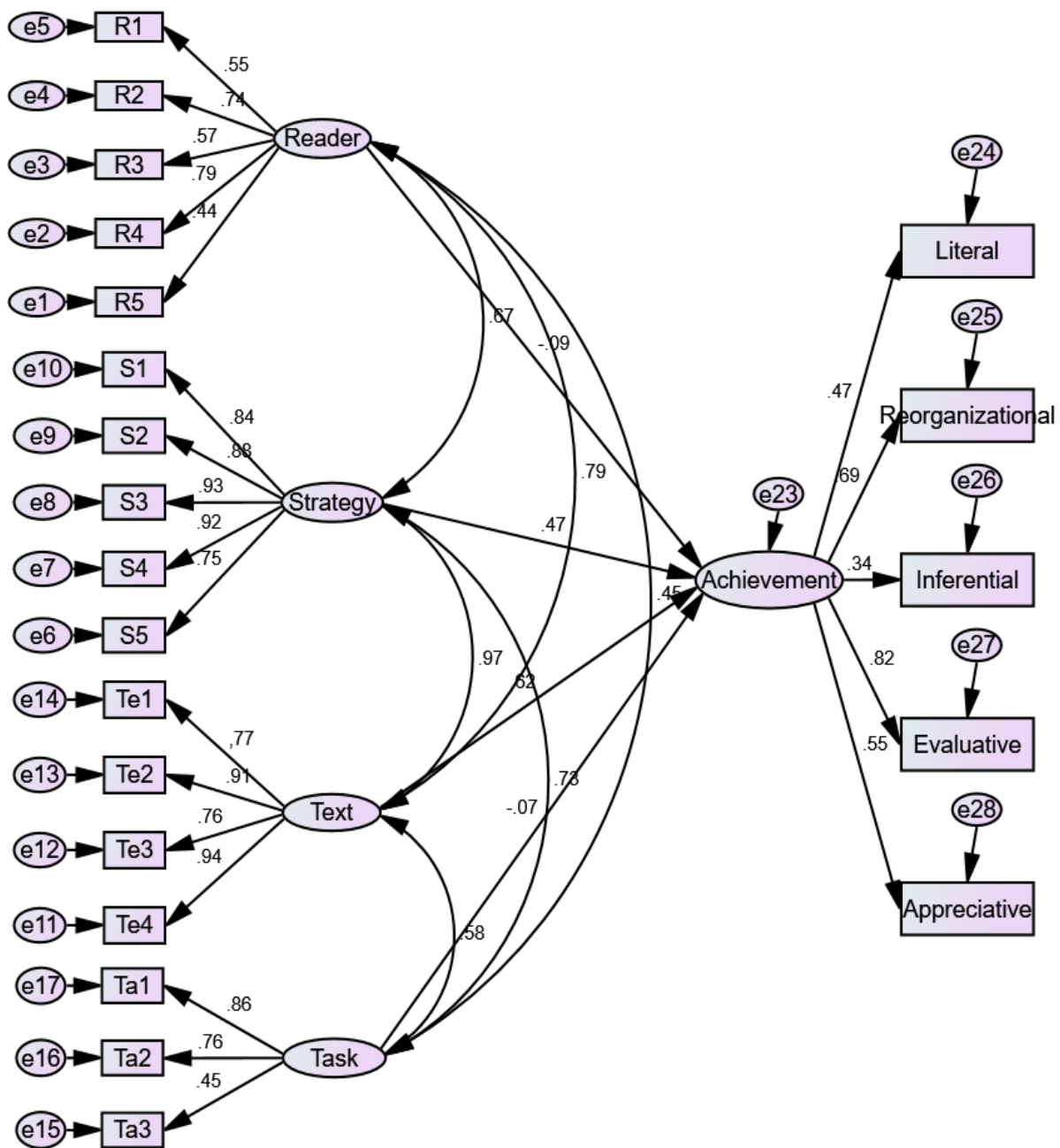
*Addressing RQ16: What is the effect of teachers' reflections on students' reading comprehension achievement?*

When the RTMRC was employed, the teachers reflected on their instructional context by considering the student questionnaire and observation scheme. We used the post-test scores of the students' reading comprehension achievement and considered two main associations, namely, the association between the student questionnaire and students' achievement, and that between the observation scheme and students' achievement.

We used three types of measuring fit indices (absolute index, SRMR; comparative index, CFI; and parsimonious index, RMSEA) to determine the association between the student questionnaire and students' reading comprehension achievement. Kline (2011) noted that a non-significant Chi-square ( $\chi^2$ ), degrees of freedom ( $df$ ), and ( $\chi^2/df \leq .5$ ) are indicative of a model that fits the data well. In this association model, these values ( $\chi^2 = 412.87$ ,  $df = 199$ ,  $p = .06$ ) showed that the model fit the data values. Other fit-indices (SRMR = .04, CFI = .90, and RMSEA = .04) also confirmed that the model fit well. The teachers' reflections on *strategy* and *text* had positive and significant effects ( $\beta = .47$ ,  $p < .01$  and  $\beta = .62$ ,  $p < .05$ ) on the students' reading comprehension achievement. The teachers' reflections on *reader* and *task* had negative but not significant impacts on student achievement ( $\beta = -.09$ ,  $p > .05$ ; and  $\beta = -.07$ ,  $p > .05$ ) (Figure 6.2.4.5).

**Figure 6.2.4.5**

*Association Model between the Student Questionnaire and the Students' Achievement*



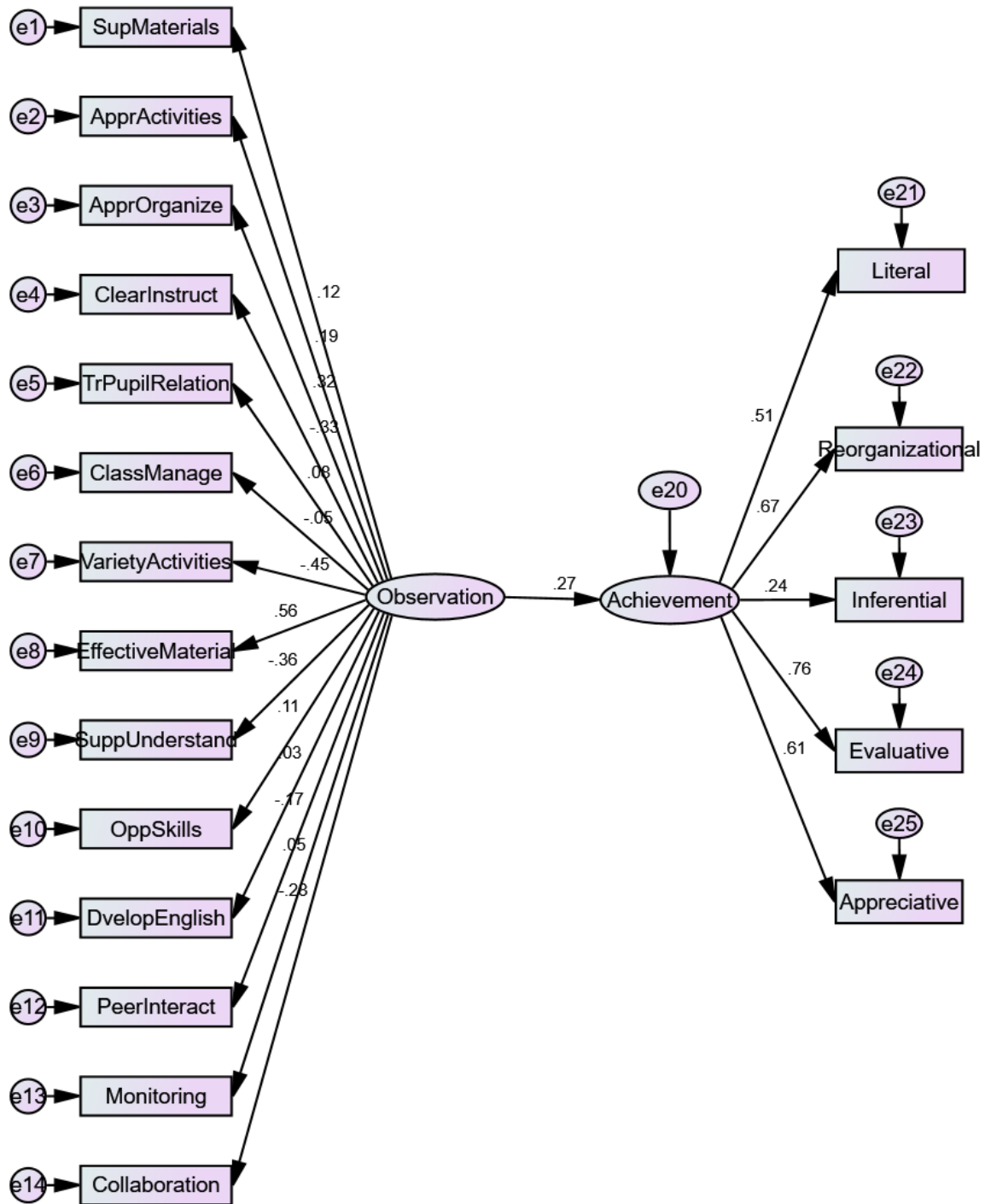
Note. N = 3420 (fifteen times of reflections)

In relation to the association between the observation scheme and students' achievement, the non-significant Chi-square, degrees of freedom, and other approximate model-fit measures ( $\chi^2 = 164.74$ ,  $df = 151$ ,  $p = .21$ , SRMR = .03, CFI = .96, and RMSEA = .01) indicated that this association model fit well with the recommended values. The teachers' reflections had a positive significant effect ( $\beta = .27$ ,  $p < .01$ ) on students' achievement using the observation scheme (Figure 6.2.4.6).



**Figure 6.2.4.6**

*Association Model between the Observation Scheme and the Students' Achievement*



Note. N = 150 (fifteen times of observations)

From the two association models, one may deduce that the teachers' indirect reflections had a positive and significant impact on the students' reading comprehension achievement.

*Addressing RQ17: What are teachers' reflections on instructional context (reader, strategy, text, and task) when RTMRC is employed?*

The teachers' reflected results were divided into four factors: reflections on reader, reflections on strategy, reflections on text, and reflections on task in accordance with the instructional context (Richards & Lockhart, 2007). These reflections were already discussed in the earlier sub-studies in detail. Here, these are subsequently and briefly discussed (based on the results in Figure 6.2.4.7).

### *Results of the Student Questionnaire*

#### *Reflections on reader*

Most of the students enjoyed the cooperation associated with the reciprocal teaching strategy. The students acknowledged that their English reading improved when they worked with others. They preferred it when teachers used the blackboard to explain the text. Most students felt embarrassed when they were asked to read aloud alone. They did not want to guess the words from the context and wanted their teachers to explain the reading texts. When the interactive teaching and questioning strategies were employed, only a few students felt embarrassed to read individually. In later sessions, they tended to depend on themselves rather than their teachers.

#### *Reflections on strategy*

Students agreed that when the reciprocal teaching strategy was employed, their teachers' reading techniques helped them to remember the vocabulary. The students also appreciated their teachers' strategy of explaining reading texts with relevant questions. However, the students reported that a few teachers spoke too softly when engaged in classroom management. Employing the interactive and questioning strategies enabled the teachers to project their voices during classroom management. The students mostly appreciated the interactive teaching strategy among the three teaching strategies.

#### *Reflections on text*

When reciprocal teaching was being used, the students experienced the reading texts as interesting and easy to understand. Furthermore, they were able to find questions in the text to discuss. In addition, most of the students understood the reading comprehension exercises even though some found the reading passages difficult and could not capture the main ideas so as to summarize the passage. In the later sessions of interactive teaching and reciprocal teaching, the

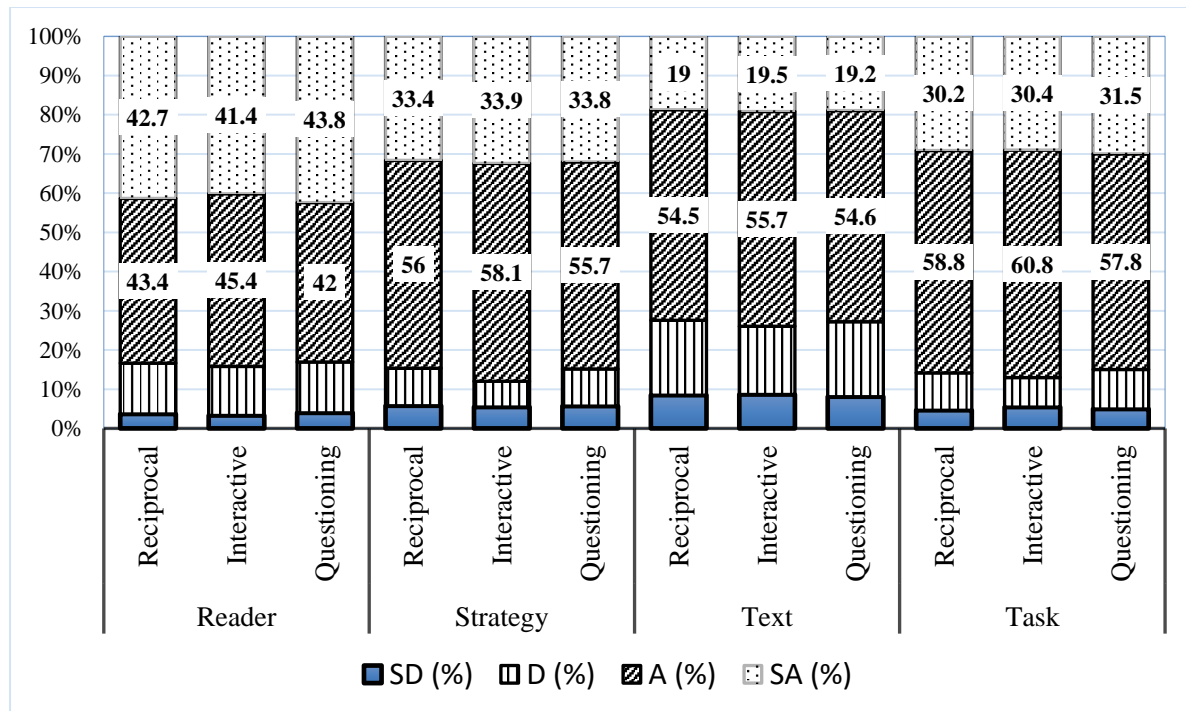
teachers explained the main ideas of the reading passages, which enhanced the students' understanding.

*Reflections on task*

Most students agreed that they enjoyed learning by engaging in tasks related to reading texts, including taking notes, underlining, and highlighting. Furthermore, they appreciated the collaborative efforts when reciprocal teaching was employed. Most were able to answer the reading comprehension exercises. Thus, they were happy if their teachers gave them reading comprehension exercises. However, a few students did not like answering the reading comprehension exercises because they found them difficult. In the later sessions, the teachers focused on these reading comprehension exercises and the students' understanding improved. The responses from the student questionnaire revealed that the three instructional strategies had a profound effect on students' reading comprehension. However, some students did not like teachers' classroom management, teachers' soft voices, reading aloud individually, and capturing the main ideas of texts. The teachers' reflections of the RTMRC approach enabled them to improve these aspects in later sessions. Therefore, various improvements in teaching with the interactive and questioning strategies were evident (Figure 6.2.4.7).

**Figure 6.2.4.7**

*Teachers' Reflections on the Instructional Context from the Student Questionnaire*



Note. N = 3420 (fifteen times of reflections)

### *Results of the Observation Scheme*

Ten observers employed the observation scheme fifteen times so as to observe teachers' instruction in classrooms. Descriptive statistics were used to analyze the results from the observation scheme. The results are subsequently described in relation to reciprocal teaching, interactive teaching, and the questioning strategy. These results were also presented in Figure 6.2.4.8. The following results were some distinct parts of the observation scheme used by the observers.

#### *Reciprocal teaching*

Most observers believed (gave good and excellent grades in the observation scheme) that the teachers were very successful in providing appropriate learning activities during reciprocal teaching; the students also participated in a variety of activities the teachers created actively; and it was evident that the teachers could provide enough opportunities in teaching reading comprehension to enable the students to use their existing knowledge and skills. Most of the observers gave the teachers good or excellent grades for supporting peer interaction among the students. However, the teachers were given poor grades for selecting appropriate learning materials. A few teachers also got poor grades for their guidance of related activities with models of English language use.

#### *Interactive teaching*

The interactive teaching strategy is highly dependent on appropriate teaching aids to stimulate the students' background schema to enable top-down learning. The observers generally gave good or excellent grades to the teachers for their endeavors to provide effective materials to teach reading passages. By using different teaching aids to stimulate the students' existing skills and knowledge, the teachers were able to support students' effective understanding of the reading text by creating peer group interaction activities. The students' considerable interest in the teachers' use of appropriate teaching aids enabled the teachers to organize their classes very well. However, some observers believed the teachers were inept at providing different learning activities to enhance students' English language use (based on the low grades from the observation scheme).

#### *Questioning strategy*

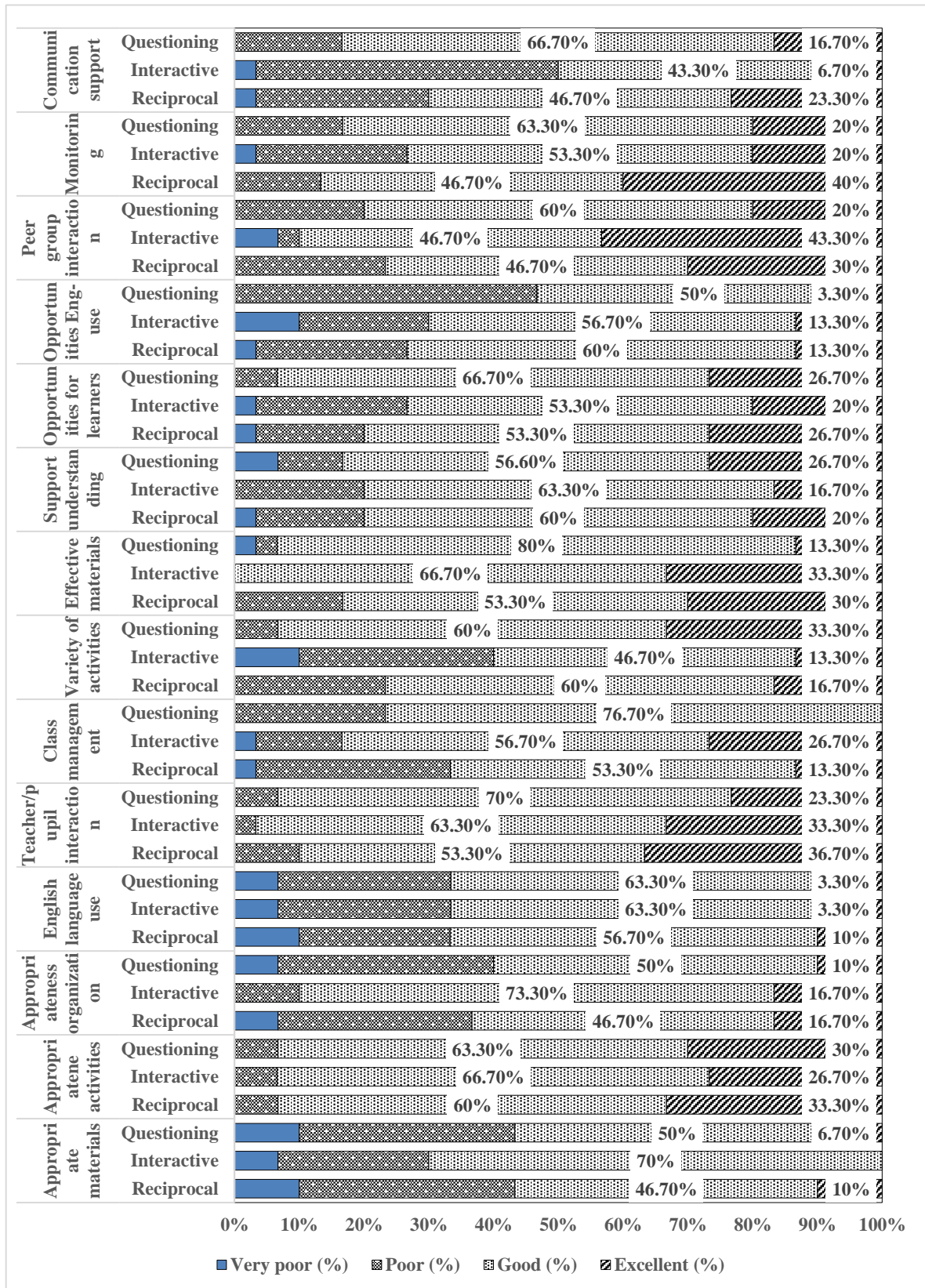
During the questioning strategy, it was revealed that the relationships between the teachers and students were very good. The activities the teachers had planned were also appropriate for the students' learning needs. The observers thought that the teachers could organize the class very

well because they stimulated the students by asking questions constantly. Because the questions stimulated the students' metacognitive knowledge, the teachers were able to help them to learn new knowledge related to their background schema. However, the observers noted that the teachers' selection and provision of different learning materials related to the reading text were poor. Teachers were also suggested to give the opportunity to the students to ask the questions back instead of continuous questions to the students. The teachers were also inept at providing activities for students' English language use (based on the low grades of from the observation scheme).

The RTMRC approach enabled the teachers to reflect on what had occurred during the various strategies. The teachers were also afforded the opportunity to know the strengths and weaknesses of their instructional processes. This enabled them to correct their weaknesses and improve their instructions in the later sessions. Some improvements were noticeable during interactive teaching and the questioning strategy (Figure 6.2.4.8).

**Figure 6.2.4.8**

*Results of Peer Observations*



Note. N = 150 (fifteen times of observations)

#### ***6.2.4.6 Discussion and summarization***

Teaching with the RTMRC approach benefits both teachers and students. The questionnaire gave the students the opportunity to give their opinions and learning preferences. They were also able to reflect on their understanding of their teachers' revised questions. Similarly, the teachers also had the opportunity to bridge the gap between their planned instructional context and practical experiences. Myanmar students are naturally dominated by culture and accordingly, respect their teachers. The students find it very difficult to oppose their teachers. However, the students gave their preferences and opinions when responding to the questionnaire. For instance, they admitted that sometimes they guessed the meanings of words and acknowledged they did not like to read aloud alone. They also related their appreciation of their teachers. Based on their opinions, the teachers were able to modify their actions.

When the three strategies were employed without affording teachers an opportunity to reflect, researchers who have examined these strategies have highlighted weaknesses and made recommendations. Rodli and Prastyo (2017) recommended that teachers should take care of assigning the strategies of predicting, questioning, clarifying, and summarizing to student groups. Anyiendah et al. (2019) suggested that teachers should not use the pre-teaching vocabulary strategy to stimulate students' background knowledge to facilitate top-down learning because students showed a preference for other strategies such as the K. W. L strategy and the use of different teaching aids. Barjesteh and Moghadam (2014) indicated that teachers should also give students the opportunity to ask teachers questions. However, in this study, the teachers were able to reflect on the students' opinions and observers' suggestions and make modifications.

In essence, the RTMRC approach had a significant and positive effect on the students' reading comprehension achievement. English language teachers in Myanmar often use conventional teaching methods and most do not have professional development training (Ulla, 2017). Because the RTMRC approach can be employed with every teaching method when teaching reading comprehension, it is of great importance that all English language teachers employ it to teach effectively. It is recommended that the RTMRC model be employed in future research to examine and compare various types of teaching methods for ELT teachers. It could also be used to address the limitations of method-centered teaching.

## **CHAPTER 7**

### **CONCLUSION**

This chapter deals with the combination of the whole study. It includes four parts such as discussion, suggestions, recommendation, and research originality. The part 'discussion' focuses on how the research findings are related to the research questions and hypotheses. And in the part 'suggestions', the strengths and weaknesses/limitations of the research are presented. Regarding the 'recommendation' part, better and more effective ways are recommended for future research concerning this field of study. The last part is highlighted with the originality of the research providing new knowledge based on the theoretical information.

#### **7.1 Discussion**

We addressed 20 research questions and 20 research hypotheses by dividing them into three research phases to fulfill the aim of this study.

As the first phase of the research, a new reflective teaching model for reading comprehension was theoretically developed based on the existing theoretical information. And its efficacy was also confirmed with some experts for teaching reading comprehension in ELT. These experts commonly agreed that the RTMRC model is appropriate for teaching reading comprehension.

There are some reasons for this being so. To develop a reflective teaching model for reading comprehension, we considered different variables; what theory it is strongly based on, what instructional design criteria should be considered, what is the nature of reflective teaching and its characteristics, what are the nature of reading and reading comprehension processes, what factors are influencing teaching instructional reading events, and how reflective teaching is applied in teaching reading comprehension. To have enough knowledge about these variables, we reviewed different theoretical papers about learning theories, reflective teaching, reading comprehension, and about instructional design development from different fields of study. Based on different reasons, by comparing and contrasting different authors' statements, we finally developed a new theoretical reflective teaching model for reading comprehension in ELT. After developing a theoretical reflective teaching model, we considered another step; how to confirm its efficacy for teaching students reading comprehension. It is unwise to say that this reflective teaching model is very appropriate in teaching reading comprehension without any face validation of experts from the respective fields. Therefore, we asked for help from four experts/professors (two from the field of instructional design and two from the field of English language teaching) to assess the efficacy of RTMRC for teaching reading



comprehension. Based on these experts' evaluation, it was confirmed that this new theoretically developed RTMRC is appropriate for teaching reading comprehension.

In second phase, the pilot study was conducted (five weeks) for validating the instruments which are going to be used in the main study. The three research questions were set to address in this sub-study. They all relate to instrument validation. In this sub-study, we validated three instruments, self-developed pre- and post-tests (for assessing students' achievement), the adapted student questionnaire (for helping teacher's reflection), and observation scheme (for helping teacher's reflection) which is the original observation scheme of other researchers (Richards and Lockhart, 2007). In this sub-study, we validated the instruments regarding their content validity and construct validity. The findings showed that the instruments were valid and reliable for teaching and measuring students' reading comprehension achievement. These findings are also consistent with our research hypotheses.

There were some reasons which caused this consistency between research findings and research hypotheses. At first, in validating the content of the instruments, we asked for help from six content experts (four from Upper Secondary Schools who are teaching English, and two from the field of Methodology in English). Only 20 items from the student questionnaire could be content-validated (the content experts confirmed only 20 out of 25 items from the original questionnaire). And there were only 17 items left in validating the construct validity based on these pilot-study results. The pre- and post-tests were also content and construct validated. Finally, there were only 27 items in the tests after confirming their validities (both content and construct validities). However, as for the case of the observation scheme, only its content validity was confirmed for cross-cultural use in different contexts. Therefore, the research findings were consistent with the research hypotheses after modifying some limitations of the instruments.

As the third phase, the main study was carried out to investigate the effectiveness of RTMRC on students' reading comprehension. There were four main parts in the main study to investigate the effects of some teaching approaches (RBRT, RBIT, RBQA, and RTMRC) in students' reading comprehension achievement. The first part of the main study is about the investigation of the effectiveness of the RBRT approach on students' reading comprehension achievement. The findings prove our hypothesis that the RBRT approach is very effective for teaching students' reading comprehension achievement. This positive result may come from two benefits of reflective teaching and reciprocal teaching.

Reflective teaching helps the teachers to diagnose their teaching situations, look for the instructional strengths and weaknesses and if necessary, correct these weaknesses and create

advanced further instructions. As the teachers can check their instructional events (how the situation of students is, how effective the strategy is, the text's difficulty level and the activities students do in the class), the reflective teaching may be one cause of raising the effectiveness of the RBRT approach in this sub-study. By reflection, the students could double their understanding of the reading text. According to the transformative learning theory, reflection helps the students' complete understanding of the reading text. Another reason is the cause of reciprocal teaching. While teaching with a reciprocal method, the students had to take the roles of the questioner, clarifier, summarizer, and predictor. As the questioners, they need to ask questions about the unclear parts and puzzling information, and make connections to prior knowledge. As the clarifiers, the students had to try answering the posted questions by identifying the vocabulary, and by identifying and clarifying the unclear and difficult words. As the summarizers, the students drew conclusions by taking the main ideas of the reading text. And as the predictors, the students had to make predictions relating to the reading text by combining their prior and newly learned knowledge. Therefore, reciprocal teaching also gives a lot of skills (discriminating, analyzing, generalizing, summarizing, and predicting) and helps students learn and remember vocabulary more and more. These benefits that come from teachers' reflective teaching and reciprocal teaching (in the RBRT approach) can improve students' reading comprehension achievement very much.

Under this sub-study, we also expected one hypothesis that teachers' reflection on the instructional context has a positive impact on students' reading comprehension achievement. Teachers' reflections with the help of observers had a positive impact on students. This finding may be the result of observers' suggestions to the teachers to create better instructions based on their strengths and weaknesses. Another reason is also possible. It is the results of the student questionnaire helping the teachers reflect on their instructional context (involving reader, strategy, text, and task). Surprisingly, this expected hypothesis could not be completely confirmed, because the findings also showed that teachers' reflection (by the student questionnaire) on their strategy and students' activities (task) had no significant impact on students' reading comprehension achievement. This result may be the effect of teachers' appropriate use of the strategy and very useful activities for students' effective learning in reading comprehension. The teachers do not need to correct/modify anything regarding the reflection of strategy and task. Therefore, the reflection for them is not necessary and has no effect.

The second part of the main study is the investigation of the effectiveness of the RBIT approach on students' reading comprehension achievement. We set one hypothesis that the

RBIT approach is very effective for students' reading comprehension achievement. The findings proved that this RBIT approach could improve students' reading comprehension achievement.

This is because of the teachers' efficient planning about the instruction of interaction between the bottom-up and top-down approaches. First, the teachers had to do the pre-teaching vocabularies regarding language, content, and form of the reading text. The teachers asked the students their difficult words relating to the text and wrote them down on the board. Then the teachers explained/pre-taught them what their meanings and usages are in the text. Like this way of pre-teaching vocabularies, other related content information or forms (phrases or clauses or some usages to describe the meaning of the content) were also taught by the teachers before explaining the reading text by the bottom-up approach. Actually, when the teachers explained the reading text (in the bottom-up way of word by word, sentence by sentence based on the grammars, structures, usages, and so on), the teachers' pre-taught words, content, and forms became the students' background schema which will help them more understand the text by the top-down approach. This way of interaction between the teachers' detailed explanation of the text by the bottom-up approach and the pre-taught vocabularies which will become the students' background knowledge in the top-down approach greatly improved students' comprehension of the reading text. Apart from this interaction approach, the participating teachers reflected on the instructional process to qualify that interaction approach. Therefore, this combination of two teachings; interactive teaching and reflective teaching (the RBIT approach), promoted the teachers' success in teaching reading comprehension, and we could confirm this research hypothesis.

In the third part of main study concerning the effectiveness of RBQA teaching on students' reading comprehension achievement, we expected that this RBQA teaching will have a significant impact on students' reading comprehension achievement. The findings had shown that the RBQA teaching had a significant impact on students' reading comprehension achievement.

This successful expectation may be the benefit of two approaches; questioning and reflective teaching. In the questioning strategy, the teachers followed the model, 'Initiate-Response-Evaluate'. The teachers first asked or initiated the questions to the students based on the reading text. The students had to answer or give responses to the teachers by thinking logically and critically. Then the teachers evaluated their answers and if necessary, they gave them feedback. In fact, this questioning strategy stimulated students' curiosity and interest in learning. And the teachers also had a chance to know the students' understanding of the reading

text, and they could clarify the students' confusion as necessary. In fact, the questioning strategy had some limitations such as *'the teachers asked continuous questions to the students, however, the students had no opportunity to ask the questions back to the teachers; the teachers did not listen to the students carefully even when the students created quick questions for the teachers.'* In Myanmar tradition and culture, the teachers are highly respected by the students (teachers are considered to be the same level or position as God, monks, and parents). Therefore, their words and actions are considered mostly true. Therefore, some teachers thought that they are always right, the students must listen to them and follow what they are asked. Most students in the class dared not ask questions to the teachers. In fact, the youths (the grade-10 students) at the age of 15-16 years are very curious to know something of their own interest and they want to ask many questions to the teachers. However, if they behave based on their own interest or ask the questions back to the teachers, they are mostly considered impolite and disobedient, and most teachers do not like such students in Myanmar culture. Actually, learning is more effective only when it is based on students' curiosity and critical thoughts. Due to the teachers' reflection on this fact, they knew this weakness in the questioning strategy and could give students the opportunity to ask the questions based on their interests. Therefore, their learning was more effective and they achieved highly in reading comprehension. Thus, we could firmly confirm this hypothesis relating to the effectiveness of RBQA teaching to students' reading comprehension achievement.

The last part of the main study is about the investigation into the effectiveness of RTMRC on students' reading comprehension achievement regarding the whole of the main study. In this sub-study, we had already set a hypothesis that the RTMRC was very effective for students' reading comprehension achievement. This research hypothesis is completely true because the findings proved the effectiveness of RTMRC in teaching reading comprehension.

The truth of this hypothesis has one distinct reason. It is that the RTMRC model for teachers is like a 'mirror' for all people. The good looks of people have to depend on that mirror. Without the mirror, these people cannot know how their looks are (i.e, the situation of face, eyes, nose, hair, and so on). If they have something to modify their looks or want to beautify their face, it is a must that they must look for the nearest mirror and use it for their beauty or handsomeness. Like this example, the RTMRC model is a mirror for teachers. They really need the RTMRC model for creating effective teaching instruction. This RTMRC model helped the teachers know the weaknesses of their instructions with reciprocal teaching, interactive teaching, and questioning. And the teachers could make these instructional strategies better and better. That is why, the students' learning is very effective and highly achieved, and this

research hypothesis was successfully confirmed in this study.

In this sub-study, there is another hypothesis that is wrong or inconsistent with the research findings. We set the hypothesis, *'the reciprocal teaching is most appreciated by the students during the intervention period'*. However, the research findings showed that students mostly appreciated the interactive teaching strategy.

It is because the technique, pre-teaching vocabulary, was used in interactive teaching to provide the prior knowledge before explaining the text. In almost every grade of Basic Education, Myanmar teachers regularly use the pre-teaching vocabulary technique for the students' prior knowledge of the related text. Therefore, Myanmar students are used to this technique to learn reading comprehension, and thus they love it most. However, in the case of reciprocal teaching, the students have to take the roles of questioner, clarifier, summarizer, and predictor. These tasks are great challenges for them. They were not familiar with them. Therefore, in this situation of Myanmar, the students appreciated the interactive teaching most. And one consideration comes here; *'which tool is most appreciated by the carpenter among the working tools (e.g., hammer or hand saw or chisel) in his tools box?'* No tool is better than the others, in fact, they have their own uses depending on different situations. Therefore, the carpenter will appreciate the different tools based on different situations. Consequently, based on the situation of Myanmar students, they most appreciated the interactive teaching; however, in the different contexts of other countries, students' appreciation may change to different teaching strategies.

To put it in a nutshell, all research questions were successfully addressed in accordance with the aim of the research. And our expected hypotheses (N = 20) are mostly true in this research study.

## **7.2 Suggestions**

There are some strengths and limitations in conducting this research. Because of its generalizability to many academic subjects, this RTMRC model is invaluable for both teachers and students both in their ELT reading comprehension process and in other academic areas. Actually, Myanmar's government is encouraging ELT to promote the national education system (Soe, 2015), and thus this paper will be useful for both pre-service and in-service teachers. "ELT research in Myanmar, especially classroom-based research, is understandably scant, given the country's educational situation" (Tin, 2014, p. 98). Therefore, this classroom-based experimental RTMRC research can be a very helpful resource, especially for ELT teachers and their students in Myanmar. In the earlier problem statement of this research, it has

already been mentioned that Myanmar Education is a centralized system and teachers' instructional strategies are outdated and are mostly teacher-centered traditional teaching methods. Even though Myanmar teachers use their traditional teaching methods (due to the lack of knowledge of other effective teaching strategies), this RTMRC model can help to improve their traditional teaching methods and promote their effectiveness. It is because these teachers can reflect on their traditional instructions with the help of the RTMRC model and look for and modify their weaknesses to create more effective instructional situations.

During the instruction with this RTMRC model, the students also have a chance to reflect on their learning with the reflective exercises, and thus their learning becomes transformative and more effective. Rather than this simple event, the students also have an opportunity to describe their opinions to the teachers anonymously. Thus, they enthusiastically participate in their learning and can decorate their minds with creative thoughts. Actually, this teaching with the RTMRC model can plant a seed of creative thoughts in the students' minds. Therefore, this research of the RTMRC approach is of great importance for both teachers and their students for effective learning.

However, there are some limitations that we could not solve in this study. They are as follows.

- (1) The intervention period of this study is just 15 weeks. It would be better if we could plan it for a longer time span. If possible, we should complement this study with a follow-up study to examine the long-term effect of the RTMEC approach for students' reading comprehension.
- (2) In the reflecting step of this RTMRC model, we could use only two reflective teaching tools; student questionnaire and observation scheme, depending upon the participating teachers' workload in their respective schools. In fact, in this stage of reflecting, the teachers can use a variety of reflective tools such as writing portfolios, audio, and video recordings, students' open feedback to the teacher's instruction, teacher's journal writing, lesson reports, and so on.
- (3) In this research, the results of different text exercises evaluated by the participating teachers were not presented because there were many different evaluated exercises for different reading passages.
- (4) Information and Communication Technology (ICT) could be employed in the developmental sessions because in this present research, teachers could not use ICT tools due to the lack of infrastructural background.
- (5) In this research, the participating teachers could use only three teaching strategies such as

reciprocal teaching, interactive teaching, and questioning. In fact, it would be better if the teachers could apply more than these three strategies in qualifying their effectiveness in students' reading comprehension.

- (6) It would be more effective if the observers could have more time to observe the teachers' instructional periods and could give more detailed feedback to the teachers.

### **7.3 Recommendations**

The RTMRC model is an essential tool that every ELT teacher should use for their effective instruction. As mentioned above, it is like a mirror for the teachers' instructional process. The teachers can use different types of teaching strategies in the framework of the RTMRC model. Additionally, the teachers will have a valuable opportunity to reflect on their instructional events and modify them as necessary to promote their effectiveness in teaching reading comprehension. Therefore, for future research, some other different teaching strategies can be applied in the RTMRC framework. And future researchers can also take different types of reflecting teaching steps in the circle of reflective teaching. Even though the gender difference cannot make a significant impact on students' reading comprehension achievement by teaching with RTMRC, different levels of school context (e.g., rich or poor in the availability of teaching-learning facilities) can cause different students' reading comprehension achievement. Therefore, the future researcher should also consider these factors in teaching with the RTMRC.

As for the research design, we had to choose this interventionist study (quasi-experimental research) depending upon the different situations of the research context. This reflective teaching is also beneficial if the future researchers can conduct the non-interventionist studies, the observational studies and the action research in different contexts with different efforts.

### **7.4 Research Originality**

We exclaim that this instructional design, '*Reflective Teaching Model for Reading Comprehension (RTMRC)*' is our originality for this research (see Figure 2.3 which was developed in Chapter 2). This is the self-developed new information (instructional design) based on different theoretical perspectives of reflective teaching in the reading comprehension process.

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APPENDIX A

PRE- AND POST-TESTS FOR THE READING TEXT ONE  
ENGLISH

Students: Grade Ten (Age of 15-16 ys)

Time Allowed: 45 minutes

I. Read the passage.

A very useful kind of wheel is one with teeth, usually called a gear-wheel. Wheels like this can be used to make one part of a machine turn faster or slower than another. The two wheels must have teeth of the same size, so that they fit together correctly. In the two wheels (larger wheel has 60 teeth, and smaller wheel has 20 teeth) fitted together, if the smaller wheel turns once, the larger one will turn one-third of the way round. To make the larger wheel turn once, the smaller one must make three complete turns, in opposite direction. One of the commonest places where gear-wheels may be found is an ordinary watch or clock. If you can get a broken clock, it is not difficult to open it and learn for yourself how it works. Another good example of gear-wheel is found in a hand-driven sewing machine.

(A) What do the underlined words refer to?

- 1. this (in line 1) \_\_\_\_\_
- 2. they (in line 3) \_\_\_\_\_
- 3. one (line 5) \_\_\_\_\_
- 4. it (in line 8) \_\_\_\_\_
- 5. it (in line 9) \_\_\_\_\_

(B) Fill in the blanks.

- 1. A wheel with teeth is called a \_\_\_\_\_.
- 2. When the two wheels with teeth are fixed together, They turn in \_\_\_\_\_ directions.
- 3. The wheels that can be found in the ordinary watches are called \_\_\_\_\_.
- 4. To fit together correctly, the size of the teeth must be \_\_\_\_\_.
- 5. In one \_\_\_\_\_ place, ordinary watch or clock can be found.

(C) Answer the following questions.

- 1. What can make one part of a machine turn faster or slower than another?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 2. What is the most important thing about the size of the teeth of the gear-wheels fitted together?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 3. How do you think about the direction of the two fitted gear wheels?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 4. What would you like to do if you found a broken ordinary watch or clock?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. If you find a sewing machine, how is your feeling? Why?

-----  
-----  
-----

**II. Answer the following questions in complete sentences.**

1. What are the wheels on a bicycle called?

-----  
-----  
-----

2. What is the advantage of gear-wheels, being joined by a chain?

-----  
-----  
-----

3. Why do the builders often use a pulley?

-----  
-----  
-----

4. What kind of wheel do you prefer? Why?

-----  
-----  
-----

5. Why humans prefer wheels to rollers?

-----  
-----  
-----

**III. Match the two columns which are similar in meanings.**

**Column (A)**

- 1. Rods
- 2. Hand-driven
- 3. More convenient
- 4. Various forms
- 5. A purpose

-----  
-----  
-----  
-----  
-----

**Column (B)**

- (a) made to work by hand
- (b) a number of different forms
- (c) a thing you want to do
- (d) easier
- (e) straight pieces of wood

-----  
-----  
-----  
-----  
-----

**IV. Cloze**

Fill each numbered blank with a word from the list given.

the            A            is            When            tied  
one            and            public            top            besides

Wheels are used today for many purposes ---(1)--- carrying things. On some buildings, and in many ---(2)--- places, you will find a flag-staff. At the ---(3)--- of the flag-staff there is a small wheel, ---(4)---over it passes a loop of a rope, ---(5)--- end of which is down near the ground. ---(6)--- we want to fly the flag, it is ---(7)--- to the loop, the rope is pulled, and ---(8)---flag goes up. The end of the loop ---(9)--- tied to the lower end of the flagstaff. ---(10)--- wheel of this kind, over which a rope passes, has a groove so that the rope cannot slip off.



*Table of Specifications Based on Barrett's Taxonomy of Reading Comprehension Levels (Reading Text One)*

No	Reading comprehension levels	Question Numbers		Question types	Given points
		On Paper	In Analysis		
1	Literal comprehension	I (B). 1	6	Blanks	1
		I (B). 2	7	Blanks	1
		I (B). 3	8	Blanks	1
		I (B). 4	9	Blanks	1
		I (B). 5	10	Blanks	1
		I (C). 1	11	Short-answer	1
		III	21	Matching	5
2	Reorganizational comprehension	IV	22	Cloze	5
		V	23	Reorganization-question (Using the prompts given)	10
3	Inferential comprehension	I (A). 1	1	Referring-questions	1
		I (A). 2	2	Referring-questions	1
		I (A). 3	3	Referring-questions	1
		I (A). 4	4	Referring-questions	1
		I (A). 5	5	Referring-questions	1
4	Evaluative comprehension	I (C). 2	12	Short-answer	1
		I (C). 3	13	Short-answer	1
		II. 1	16	Short-answer	2
		II. 2	17	Short-answer	2
		II. 3	18	Short-answer	2
5	Appreciative comprehension	I (C). 4	14	Short-answer	1
		I (C). 5	15	Short-answer	1
		II. 4	19	Short-answer	2
		II. 5	20	Short-answer	2
Total		23-items			45 points



### Correct Answers for the Reading Text One

#### I (A)

1. a gear wheel
2. wheels
3. wheel
4. to open it
5. a broken clock

#### I (B)

1. a gear wheel
2. opposite
3. gear wheels
4. the same/ same
5. common

#### I (C)

1. A gear wheel can make one part of a machine turn faster or slower than another.
2. The most important thing about the size of the teeth of the gear-wheels fitted together is that the teeth must be the same size.
3. I think that the direction of the two fitted gear wheels is opposite.
4. If I found a broken ordinary watch or clock, I would like to start opening it.
5. If I find a sewing machine, I am very happy because I want to inquire what kinds of wheels are used in it.

#### II

1. The wheels on a bicycle are called chain wheels.
2. The advantage of gear -wheels being joined by a chain is that it can make the bike faster or slower.
3. The builders often use a pulley to lift up the heavy loads to the higher places.
4. I prefer the pulley wheel because I often use them in my home to lift up the water bucket from the well.
5. Humans prefer wheels to rollers because wheels can be used for different purposes.

#### III

1. Rods (straight pieces of wood)
2. Hand-driven (made to work by hand)
3. More convenient (easier)
4. Various forms (a number of different forms)
5. A purpose (a thing you want to do)

#### IV.

1. besides
2. public
3. top
4. and
5. one
6. When
7. tied
8. the
9. is
10. A

#### V.

### Gear-wheels

A bicycle has one gear-wheel in front and another one at the back, and so it has two gear-wheels. One wheel is large and another one is small. The larger one is called the chain wheel, but the smaller one is called the sprocket wheel. If the chain is not used, the wheels are slippery. If these two wheels are not joined by a chain and fitted their gears together, they turn around in opposite directions. However, if they are joined by a chain, they move in the same direction. The smaller wheel turns around faster than the larger one if they have the same number of teeth on each.

APPENDIX B

PRE- AND POST-TESTS FOR READING TEXT TWO  
ENGLISH

Students: Grade Ten (Age of 15-16 ~~ys~~)

Time Allowed: 45 minutes

I. Read the passage.

When it became darker, I put Ben Gunn's boat over my shoulders and made my way down to the shore. I could see the mutineers' camp fire a little way inland on the low ground, and the faint glow of the cabin lights on the ship, everything else was dark, and there was no moon.

The little coracle was very safe for a person of my size, and I got along well as I paddled first one side and then the other with the little oar. By good fortune the tide took me towards the Hispaniola, and I began to see her shape grow clearer as I came near. At last I was near enough to see her anchor line, and I held on to it. It was a very thick strong rope.

I made up my mind quickly, took out my knife and cut one after another of the strands of the rope, till only two were left. Then I stayed quiet, waiting for the breeze. I felt the rope go loose as the wind blew the ship towards me. With a strong effort I cut the last strands of the rope. The Hispaniola was free.

(A) What do the underlined words refer to?

- |                          |          |
|--------------------------|----------|
| 1. my (in line 1)        | 1. _____ |
| 2. her (in line 7)       | 2. _____ |
| 3. it (in line 8)        | 3. _____ |
| 4. two (in line 10)      | 4. _____ |
| 5. the ship (in line 11) | 5. _____ |

(B) Fill in the blanks.

- |  |          |
|--|----------|
| 1. The thing on the boy's shoulder was _____.                                | 1. _____ |
| 2. There were many _____ around the camp fire.                               | 2. _____ |
| 3. The glow of the cabin lights on the ship was _____.                       | 3. _____ |
| 4. The brave boy cut the rope one after another till two _____ were left.    | 4. _____ |
| 5. As the wind blew the ship towards him, he felt the ropes _____ was _____. | 5. _____ |

(C) Answer the following questions.

1. Where was the mutineers' camp fire?

-----  
-----

2. Why was everything else dark?

-----  
-----

3. Why was the boy lucky enough to see the shape of the Hispaniola clearer?

-----  
-----

4. When did the boy stay quiet, waiting for the breeze?

-----  
-----

5. Why did the boy feel the rope was loose?

-----  
-----  
-----

**II. Answer the following questions in complete sentences.**

1. Do you think a brave boy's action was true? Why?

-----  
-----  
-----

2. Why was the boy searching for the white rock?

-----  
-----  
-----

3. What impression do you have when you saw a brave boy falling asleep in the sea-tossed coracle?

-----  
-----  
-----

4. If you were in the story, would you like to stop the mutineers? Why?

-----  
-----  
-----

5. How did the boy get to the Hispaniola?

-----  
-----  
-----

**III. Match the two columns which are similar in meanings.**

**Column (A)**

- 1. Tough
- 2. Serviceable
- 3. Inland
- 4. The current
- 5. Locked together

**Column (B)**

- (a) away from the shore
- (b) a stream of water flowing through
- (c) joined tightly together
- (d) good or strong enough to use
- (e) strong

-----	-----
-----	-----
-----	-----
-----	-----
-----	-----

**IV. Cloze**

Fill each numbered blank with a word from the list given.

- |        |      |      |     |      |
|--------|------|------|-----|------|
| had    | have | rope | not | ship |
| longer | me   | she  | the | over |

The ship began to turn as she was taken along by the current. Suddenly I found that another rope was hanging ---(1)--- the side near me. I decided to ---(2)--- one look through the cabin window above ---(3)---. I pulled myself up carefully by the ---(4)---, keeping a foot in the coracle. The ---(5)--- was beginning to take me along as ---(6)--- moved, and I wondered why no watchman ---(7)--- given the alarm. But one glance into ---(8)--- cabin showed me why, and I dare ---(9)--- hold myself up in the coracle any ---(10)---.



*Table of Specifications Based on Barrett's Taxonomy of Reading Comprehension Levels (Reading Text Two)*

No	Reading comprehension levels	Question-numbers		Question types	Given points
		On Paper	In Analysis		
1	Literal comprehension	I (B). 1	6	Blanks	1
		I (B). 2	7	Blanks	1
		I (B). 3	8	Blanks	1
		I (B). 4	9	Blanks	1
		I (B). 5	10	Blanks	1
		I (C). 1	11	Short-answer	1
		I (C). 4	14	Short-answer	1
		III	21	Matching	5
2	Reorganizational comprehension	IV	22	Cloze	5
		V	23	Reorganization-question (Using the prompts given)	10
3	Inferential comprehension	I (A). 1	1	Referring-questions	1
		I (A). 2	2	Referring-questions	1
		I (A). 3	3	Referring-questions	1
		I (A). 4	4	Referring-questions	1
		I (A). 5	5	Referring-questions	1
4	Evaluative comprehension	I (C). 2	12	Short-answer	1
		I (C). 3	13	Short-answer	1
		I (C). 5	15	Short-answer	1
		II. 2	17	Short-answer	2
		II. 5	20	Short-answer	2
5	Appreciative comprehension	II. 1	16	Short-answer	2
		II. 3	18	Short-answer	2
		II. 4	19	Short-answer	2
Total		23-items			45 points

## Correct Answers for the Reading Text Two

### I (A)

1. Ben Gunn's
2. Hispaniola
3. anchor line
4. two strands of the rope
5. Hispaniola

### I (B)

1. Ben Gunn's boat
2. mutineers
3. faint
4. strands
5. loose

### I (C)

1. The mutineers' camp fire was a little way inland on the low ground.
2. Everything else was dark because there was no moon.
3. The boy was lucky enough to see the shape of the Hispaniola clearer because the tide took him towards the Hispaniola.
4. The boy stayed quiet, waiting the breeze when only two strands of the rope were left.
5. The boy felt the rope was loose as the wind blew the ship towards me.

### II

1. No, I don't think a brave boy's action was true because it is too dangerous.
2. The boy was searching for the white rock because he wanted to pick up Ben Gunn's boat hidden there.
3. I was astonished and I really took pride for his success when I saw a brave boy falling asleep in the sea-tossed coracle.
4. If I were in the story, I would not like to stop the mutineers because I was young and had no any weapons.
5. The boy got to the Hispaniola by Ben Gunn's boat.

### III

1. Tough (strong)
2. Serviceable (good or strong enough to use)
3. Inland (away from the shore)
4. The current (a stream of water flowing through)
5. Locked together (joined tightly together)

### IV

1. over
2. have
3. me
4. rope
5. ship
6. she
7. had
8. the
9. not
10. longer

### V

#### A Brave Boy

A brave boy went to the east coast to find the Ben Gunn's boat. He decided to stop the mutineers by sailing away with the Hispaniola. A brave boy took the coracle to get the Hispaniola at the dark night. He cut its anchor by the small knife. He was tired and stayed quiet to wait the breeze, and finally with the strong effort, he cut the strands of the rope. Finally, the Hispaniola was free and carried his boat into the current. He stayed for many hours in the coracle, and slept and dreamed for home.

APPENDIX C

PRE- AND POST-TESTS FOR THE READING TEXT THREE  
ENGLISH

Students: Grade Ten (Age of 15-16 ys)

Time Allowed: 45 minutes

I. Read the passage.

When water changes to water-vapour it is said to evaporate, and we speak of the evaporation of water into water-vapour. Evaporation also takes place when a cooking pot containing water is heated. The water in the pot gets less and less. You may be doubtful about water-vapour being in the air, because you cannot see it or smell it. Have you ever seen drops of water on the grass or on small stones in the early morning, even when there has been no rain during the night? Where did the water come from? It must have come from the air. In other words, unseen water-vapour in the air has turned back to water. Thus water-vapour can be in the air even though we cannot see it. In the same way, if a jug of cold water is brought into a warm, water sometimes appears on the outside of the jug. This water on the outside has formed from the water-vapour in the air round about.

(A) What do the underlined words refer to? (5 marks)

1. it (in line 1) -----
2. You (in line 3) -----
3. the water (in line 6) -----
4. It (in line 6) -----
5. it (in line 8) -----

(B) Fill in the blanks.

1. When water changes to water-vapour, the ----- occurs. -----
2. When a cooking pot containing water is heated, the water -----  
-----.
3. The water in the air cannot be -----.
4. The drops of water on the grass in the early morning can -----  
----- although there has been no rain.
5. The water on the outside of the jug come from -----  
----- in the air round about.

(C) Answer the following questions.

1. Why can you be doubtful about water-vapour being in the air?  
-----  
-----  
-----
2. What is an evaporation?  
-----  
-----  
-----
3. What can happen when the cooking pot with water is heated?  
-----  
-----  
-----
4. Where did the water drops outside the cold bottle of water come from?  
-----  
-----  
-----
5. How does the water appear outside the jug?  
-----  
-----  
-----

**II. Answer the following questions in complete sentences.**

1. Do you think the evaporation is useful for us? Why?

-----  
-----

2. What kind of impression do you have after reading about the evaporation?

-----  
-----

3. Do you like the example of evaporation process from the cooking pot? Why?

-----  
-----

4. Why can water-vapor float in the air?

-----  
-----

5. Why do we feel cooler when we sweat?

-----  
-----

**III. Match the two columns which are similar in meanings.**

**Column (A)**

1. Collect
2. Hallow in ground
3. Doubt
4. Goes on
5. A lagoon

-----  
-----  
-----  
-----  
-----

**Column (B)**

- (a) think it may not true
- (b) a salt-water lake
- (c) takes place, progresses, happens
- (d) part of the ground that are lower than the rest
- (e) come together

-----  
-----  
-----  
-----  
-----

**IV. Cloze**

**Fill each numbered blank with a word from the list given.**

Leaving    about    gets    have    can  
Seems    water    Liquid    watch    into

If you doubt this, think about the little pool of --(1)-- which you see sometimes in a hole in a rock. It, too, --(2)-- smaller and smaller. Water cannot sink through rock and so it must --(3)-- gone into the air. However long you --(4)-- the water in a pool, you will not see liquid water --(5)-- the pool. You have never seen drinking water swimming --(6)-- in the air. When water --(7)-- to disappear like this, the water has changed from a liquid --(8)-- what is called a vapor. --(9)-- water, which we can see, has become water-vapour, which we cannot see. This water-vapour has moved into the air round about. It swims in the air just as a piece of wood --(10)-- swim in water, because wood is lighter than water.





*Table of Specifications Based on Barrett's Taxonomy of Reading Comprehension Levels (Reading Text Three)*

No	Reading comprehension levels	Question-numbers		Question types	Given points
		On Paper	In Analysis		
1	Literal comprehension	I (B). 1	6	Blanks	1
		I (B). 2	7	Blanks	1
		I (B). 3	8	Blanks	1
		I (B). 4	9	Blanks	1
		I (B). 5	10	Blanks	1
		I (C). 2	12	Short-answer	1
		I (C). 4	14	Short-answer	1
		III	21	Matching	5
2	Reorganizational comprehension	IV	22	Cloze	5
		V	23	Reorganization-question (Using the prompts given)	10
3	Inferential comprehension	I (A). 1	1	Referring-questions	1
		I (A). 2	2	Referring-questions	1
		I (A). 3	3	Referring-questions	1
		I (A). 4	4	Referring-questions	1
		I (A). 5	5	Referring-questions	1
4	Evaluative comprehension	I (C). 1	11	Short-answer	1
		I (C). 3	13	Short-answer	1
		I (C). 5	15	Short-answer	1
		II. 4	19	Short-answer	2
		II. 5	20	Short-answer	2
5	Appreciative comprehension	II. 1	16	Short-answer	2
		II. 2	17	Short-answer	2
		II. 3	18	Short-answer	2
	Total	23-items			45 points

### Correct Answers for the Reading Text Three

#### I (A)

1. changing of water to water-vapor
2. the reader
3. drops of water on the grass or on small stones
4. the water
5. water-vapor

#### I (B)

1. evaporation
2. evaporates
3. seen
4. be seen
5. the water-vapor

#### I (C)

1. I can be the water-vapor in the air because I cannot see anything in air.
2. Evaporation is the process of change from water to water-vapor.
3. When the cooking pot with the water is heated, it evaporates.
4. The water drops outside the cold water bottle came from the water-vapor in the air.
5. The water appears outside the jug by changing the water-vapor from the air to the water drops.

#### II.

1. Yes, I think the evaporation is useful for us because there will be no rain without evaporation.
2. After reading about the evaporation, I was surprised to know the process of evaporation because I did not know before it.
3. Yes, I like the example of evaporation process from the cooking pot because I can explain my mother how it is occurred.
4. Water-vapor can float in the air because it is lighter than the air.
5. We feel cooler when we sweat because the sweat evaporates.

#### III.

1. Collect (come together)
2. Hollow in ground (part of the ground that are lower than the rest)
3. Doubt (think it may not true)
4. Goes on (takes place, progresses, happens)
5. A lagoon (a salt-water lake)

#### IV.

1. water
2. gets
3. have
4. watch
5. Leaving
6. about
7. Seems
8. into
9. Liquid
10. can

#### V.

### The process of evaporation

When the rain has fallen, the little pools of water collect in the hollows on the ground. When the rain stops, the sun comes out, and the amount of water in the pool gets smaller and smaller. The water has changed from the liquid to the water-vapor. This water-vapor moved into the air round about. It swims in the air, like an example about the piece of wood which is lighter than the water can swim in the water. This process of water changing from water to the water-vapor is known as the evaporation. On sunny day, when the water receives the heat from outside, the much water-vapor was made and evaporation occurs quickly. Although there is no direct sunshine, the evaporation takes place slowly if the water gets the necessary heat from the air nearby.

APPENDIX D

PRE- AND POST-TESTS FOR THE WHOLE MAIN STUDY  
ENGLISH

Students: Grade Ten (Age of 15-16 ys)

Time Allowed: 50 minutes

I. Read the passage.

When water changes to water-vapour it is said to evaporate, and we speak of the evaporation of water into water-vapour. Evaporation also takes place when a cooking pot containing water is heated. The water in the pot gets less and less. You may be doubtful about water-vapour being in the air, because you cannot see it or smell it. Have you ever seen drops of water on the grass or on small stones in the early morning, even when there has been no rain during the night? Where did the water come from? It must have come from the air. In other words, unseen water-vapour in the air has turned back to water. Thus water-vapour can be in the air even though we cannot see it. In the same way, if a jug of cold water is brought into a warm, water sometimes appears on the outside of the jug. This water on the outside has formed from the water-vapour in the air round about.

(A) What do the underlined words refer to?

1. it (in line 1) -----
2. You (in line 3) -----
3. it (line 4) -----
4. the water (in line 6) -----
5. It (in line 6) -----
6. it (in line 8) -----

(B) Fill in the blanks.

1. When water changes to water-vapour, the ----- occurs. -----
2. When a cooking pot containing water is heated, the water -----  
-----.
3. The water in the air cannot be -----, -----
4. The drops of water on the grass in the early morning can -----  
----- although there has been no rain.
5. There is ----- in the air even though we cannot see it. -----
6. The water on the outside of the jug come from -----  
----- in the air round about.

(C) Answer the following questions.

1. Why can you be doubtful about water-vapor being in the air?  
-----  
-----
2. What is an evaporation?  
-----  
-----
3. What can happen when the cooking pot with water is heated?  
-----  
-----
4. What can be in the air even though we cannot see it?  
-----  
-----  
-----
5. Where did the water drops outside the cold bottle of water come from?  
-----  
-----

6. How does the water appear outside the jug?

-----  
-----

**II. Answer the following questions in complete sentences.**

1. If you have an opportunity to build a wheel, what kind of wheel do you want to do? Why?

-----  
-----

2. Do you think a brave boy's action was true? Why?

-----  
-----

3. Why was the boy searching for the white rock?

-----  
-----

4. If you want to move something very heavy, which wheel do you prefer to use? Why?

-----  
-----

5. What is the pulley used nowadays?

-----  
-----

6. What impression do you have when you saw a brave boy falling asleep in the sea-tossed coracle?

-----  
-----

**III. Match the two columns which are similar in meanings.**

**Column (A)**

- 1. Rods
- 2. Serviceable
- 3. Inland
- 4. The current
- 5. Locked together

-----  
-----  
-----  
-----  
-----

**Column (B)**

- (a) away from the shore
- (b) a stream of water flowing through
- (c) joined tightly together
- (d) good or strong enough to use
- (e) straight pieces of wood

-----  
-----  
-----  
-----  
-----

**IV. Cloze**

Fill each numbered blank with a word from the list given.

- |        |      |      |     |      |
|--------|------|------|-----|------|
| had    | have | rope | not | ship |
| longer | me   | she  | the | over |

The ship began to turn as she was taken along by the current. Suddenly I found that another rope was hanging ---(1)--- the side near me. I decided to ---(2)--- one look through the cabin window above ---(3)---. I pulled myself up carefully by the ---(4)---, keeping a foot in the

coracle. The ---(5)--- was beginning to take me along as ---(6)--- moved, and I wondered why no watchman ---(7)--- given the alarm. But one glance into ---(8)--- cabin showed me why, and I dare ---(9)--- hold myself up in the coracle any ---(10)---.

- |          |           |
|----------|-----------|
| 1. ----- | 6. -----  |
| 2. ----- | 7. -----  |
| 3. ----- | 8. -----  |
| 4. ----- | 9. -----  |
| 5. ----- | 10. ----- |

V. Using the prompts given, write a short paragraph on: "Gear-wheels".

- bicycle – one in front – one at the back – two wheels
- one large – one small
- larger one – called – chain wheel; smaller one – sprocket wheel
- if chain not used – slip
- two wheels on gear-wheels not joined by chain – opposite directions
- if joined by chain – move same direction
- smaller one – faster than larger one – number of teeth on each

-----

-----

-----

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XXXXXXXXXXXX  
XXXXXXXXXXXX

*Table of Specifications Based on Barrett's Taxonomy of Reading Comprehension Levels (Combination of Reading Texts One, Two and Three)*

No	Reading comprehension levels	Question-numbers		Question types	Given points
		On Paper	In Analysis		
1	Literal comprehension	I (B). 1	7	Blanks	1
		I (B). 2	8	Blanks	1
		I (B). 3	9	Blanks	1
		I (B). 4	10	Blanks	1
		I (B). 5	11	Blanks	1
		I (B). 6	12	Blanks	1
		I (C). 2	14	Short-answer	1
		I (C). 4	16	Short-answer	1
		I (C). 5	17	Short-answer	1
	III	25	Matching	5	
2	Reorganizational comprehension	IV	26	Cloze	5
		V	27	Reorganization-question (Using the prompts given)	10
3	Inferential comprehension	I (A). 1	1	Referring-questions	1
		I (A). 2	2	Referring-questions	1
		I (A). 3	3	Referring-questions	1
		I (A). 4	4	Referring-questions	1
		I (A). 5	5	Referring-questions	1
		I (A). 6	6	Referring-questions	1
4	Evaluative comprehension	I (C). 1	13	Short-answer	1
		I (C). 3	15	Short-answer	1
		I (C). 6	18	Short-answer	1
		II. 3	21	Short-answer	2
		II. 5	23	Short-answer	2
5	Appreciative comprehension	II.1	19	Short-answer	2
		II.2	20	Short-answer	2
		II. 4	22	Short-answer	2
		II. 6	24	Short-answer	2
Total		27-items			50 points

### Correct Answers for the Whole Main Study

I (A)

1. changing of water to water-vapor
2. the reader
3. drops of water on the grass or on small stones
4. the water
5. water-vapor

I (B)

1. evaporation
2. evaporates
3. seen
4. be seen
5. the water-vapor

I (C)

1. I can be the water-vapor in the air because I cannot see anything in air.
2. Evaporation is the process of change from water to water-vapor.
3. When the cooking pot with the water is heated, it evaporates.
4. The water drops outside the cold water bottle came from the water-vapor in the air.
5. The water appears outside the jug by changing the water-vapor from the air to the water drops.

II.

1. If I had an opportunity to build a wheel, I want to make a pulley wheel because I want to use it to lift up the water bucket from the well of my home.
2. No, I don't think so because it is too dangerous.
3. The boy was searching for the white rock because he wanted to pick up the Ben Gunn's boat hidden there.
4. If I want to move something very heavy, I prefer the rollers because it is very easy to use it.
5. A pulley used nowadays is a wheel which has groove on it that helps the rope not slipping.
6. I was surprised and took pride for his success when I saw a brave boy falling asleep in the sea-tossed coracle.

III.

1. Rods (straight pieces of wood)
2. Serviceable (good or strong enough to use)
3. Inland (away from the shore)
4. The current (a stream of water flowing through)
5. Locked together (joined tightly together)

IV.

1. over
2. have
3. me
4. rope
5. ship
6. she
7. had
8. the
9. not

V.

### Gear-wheels

A bicycle has one gear-wheel in front and another one at the back, and so it has two gear-wheels. One wheel is large and another one is small. The larger one is called the chain wheel, but the smaller one is called the sprocket wheel. If the chain is not used, the wheels are slippery. If these two wheels are not joined by a chain and fitted their gears together, they turn around in opposite directions. However, if they are joined by a chain, they move in the same direction. The smaller wheel turns around faster than the larger one if they have the same number of teeth on each.



## APPENDIX E

### Student Questionnaire

Student Gender: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

School Name: \_\_\_\_\_

Teacher Name: \_\_\_\_\_

*For each statement, please tick (✓) on the number that best fits your opinion.*

Statements	Strongly disagree	Disagree	Agree	Strongly agree
1. I like the English teacher to explain everything related to the reading tasks.	1	2	3	4
2. I feel happy when my English teacher asks me to read the English text out loud alone.	1	2	3	4
3. I like the English teacher to use the blackboard/chalkboard while teaching reading comprehension.	1	2	3	4
4. When I don't understand something while reading the English text, I like to guess the meaning by connecting with other related words.	1	2	3	4
5. I do better at reading in English when I work with others.	1	2	3	4
6. I like the reading techniques the English teacher uses because they help me remember the vocabulary.	1	2	3	4
7. I like the English teacher using the relevant questions while teaching the reading text.	1	2	3	4
8. I like the strategy the English teacher uses in teaching the reading passages.	1	2	3	4
9. I like the English teacher's good classroom management.	1	2	3	4
10. I can actively participate in learning reading comprehension because I hear the English teacher's voice well.	1	2	3	4
11. I like the reading text because it is very interesting when the teacher provides us with the reflective questions.	1	2	3	4
12. I like the reading text because it is easy to take out the questions from the reading passages to discuss.	1	2	3	4

13. I like the reading text because it is easy to catch the main ideas to summarize it.	1	2	3	4
14. The reading text looks difficult to understand; however, I like it because it is easy to answer reading comprehension questions after the teacher's explanation.	1	2	3	4
15. I like learning by doing tasks (e.g., taking notes, underlining, highlighting) related to reading texts.	1	2	3	4
16. I like to participate in the collaborative activities of learning reading comprehension.	1	2	3	4
17. I like the teacher giving us various types of reading comprehension exercises.	1	2	3	4

## APPENDIX F

### Classroom Observation Scheme

Name of the teacher -----  
 Name of the observer -----  
 Subject -----, Length of the lesson -----  
 Topic -----

Legends: 1 = Very poor, 2 = Poor, 3 = Good, 4 = Excellent

No	Events to be observed	1	2	3	4	Comments
1	The appropriateness of the selection of materials	1	2	3	4	
2	The appropriateness of planning the activities	1	2	3	4	
3	The appropriateness of the organization of the class	1	2	3	4	
4	Clear instructions and models of English language use	1	2	3	4	
5	Effective teacher/pupil interaction	1	2	3	4	
6	Effective organization and management of the whole class	1	2	3	4	
7	A variety of activities	1	2	3	4	
8	Effective materials	1	2	3	4	
9	Support for understanding	1	2	3	4	
10	Opportunities for learners to apply their existing skills and knowledge	1	2	3	4	
11	Opportunities for developing English language use	1	2	3	4	
12	Opportunities for peer group interaction	1	2	3	4	
13	Effective monitoring of learning	1	2	3	4	
14	A sensitive environment for individual learners and their communicative needs	1	2	3	4	

## APPENDIX G

### Sample Lesson Plan for Reading Text One by the RBRT approach

1.	Teacher	-----
2.	Standard	Grade Ten (Age of 15-16 <del>ys</del> )
3.	Time duration	Five weeks (25 sessions - 45 mins each)
4.	Date	1 <sup>st</sup> June – 3 <sup>rd</sup> July, 2020
5.	Title	The Wheel
6.	Objectives:	
	(i) General Objectives	<ul style="list-style-type: none"> <li>• To understand the nature of the wheel.</li> <li>• To understand the usages of vocabularies about the wheel.</li> <li>• To comprehend the whole story very well.</li> </ul>
	(ii) Specific Objectives	<ul style="list-style-type: none"> <li>• To be able to answer the questions about the functions of the wheels.</li> <li>• To be able to use the knowledge of wheel in daily lives.</li> <li>• To be able to have good language skills (comprehension skills) by reading this story.</li> </ul>
7.	Procedures for 1 <sup>st</sup> session (45 mins)	<p>The procedures are based on the steps of the Reflection-Based Reciprocal Teaching (RBRT) approach.</p> <p><b>Planning</b></p> <p>In this session, the teacher is going to use <i>reciprocal teaching (questioning, clarifying, summarizing, predicting)</i> for students' comprehension of the passage.</p> <p>The teacher will select one paragraph.</p> <p>First, he will make model reading to the whole paragraph with the correct pronunciation. Then, he will make the students repeat after him sentence by sentence with meaningful chunks.</p> <p>After students' repetition, the teacher will ask the students to read the paragraph again themselves;</p> <p>Chorally, In Group, and Individually.</p> <p>After practicing correct pronunciation, the teacher will explain it by using the reciprocal teaching method. First, he will play the role model of questioner, clarifier, summarizer, and predictor respectively. He will explain to the students the activities of these four roles (i.e., what the questioner or clarifier or summarize or predictor is going to do?). The teacher lets them make groups of four. In each group, the four students take the individual roles of these four models; questioner, clarifier, summarizer, and predictor.</p> <p>And the teacher asks the students read the whole text silently to take notes for playing their role models. The example activities of these four role models are;</p>

	<p><b>Questioner</b> As the questioner, the student must ask the clarifier his confusing information, puzzling sentences, and the main idea of the text. Example,</p> <ul style="list-style-type: none"> <li>• How long has Man used wheels in various forms?</li> <li>• What was the first step towards the wheel?</li> <li>• What was a good example of using rollers in the text?</li> <li>• Can we use the tree trunks as rollers?</li> <li>• What was the main purpose of using rollers?</li> </ul> <p><b>Clarifier</b> As the clarifier, the student tries to answer the posted questions of the questioner like this;</p> <ul style="list-style-type: none"> <li>• 1000 years ago,</li> <li>• Small wheels or rollers or pulley well</li> <li>• Box and some pencils (as rollers)</li> <li>• Yes, we can use tree trunks as rollers.</li> <li>• To move the objects forward.</li> </ul> <p>The questioner can use the dictionary or thesaurus to try to understand the reading text and answer the questioner.</p> <p><b>Summarizer</b> The summarizer will summarize the key information which is relating to the text. He must organize the information into a meaningful statement in his own words. He must use his background knowledge for summarization.</p> <p><b>Predictor</b> As a predictor, the student must make a prediction about what will happen next based on the text information. He must compare his prior knowledge about the text to the new information he obtained from the text. After their four roles, the teacher can explain by taking the roles of these four models. In the next reading text, the students can take the different roles of the group (i.e., the questioner can become the clarifier, the clarifier can take the role of summarizer, and the summarizer will be the predictor, and finally, the predictor will take the role of questioner again).</p> <p><b>Acting</b> The teacher will act his teaching by following the above planning steps which are based on reciprocal teaching.</p> <p><b>Reflecting</b> The teacher can make the students reflect by giving some reflective questions to the students. Example of reflective questions; <i>The students have to read the passage and answer the following questions.</i></p> <p><b>Read the Passage.</b> Man has used wheels, in various forms, for about 5,000 years. Probably the first step towards the wheel was the use of</p>
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	<p>rollers placed under the thing to be moved. If you place a fairly heavy box on a table, you find difficulty in pushing it along. But if you put a number of pencils (or other round rods) between the box and the table, the box can be moved easily. Large rollers, such as tree trunks, were needed to help to move the heavy blocks of stone which were sometimes used in building. If you try this with a box and some pencils, you will find that as soon as the box has moved forward a little, you have to take pencils from behind, and put them in front.</p> <p><b>Complete the following sentences by reading the above passage.</b></p> <ol style="list-style-type: none"> <li>1. Wheels ----- in various forms, for about 5000 years.</li> <li>2. ----- the first step towards wheels in the current age.</li> <li>3. People used ----- before inventing the wheels.</li> <li>4. Without using rollers, you will ----- in pushing a fairly heavy box along.</li> <li>5. Tree-trunks can be used as -----.</li> </ol> <p><b>Answer the following questions in complete sentences.</b></p> <ol style="list-style-type: none"> <li>6. What was the first step towards the wheel?</li> <li>7. What was a good example of using rollers in the text?</li> <li>8. Can we use the tree trunks as rollers?</li> <li>9. What was the main purpose of using rollers?</li> <li>10. What must you do after moving a box forward a little bit?</li> </ol> <p>For the teacher's reflection,</p> <p>After teaching with the reciprocal strategy, the teacher is also going to reflect his instructional events; reader, strategy, text, and task/activities by the student questionnaire and observation scheme.</p> <p>The student questionnaire is asked the students to fill the questionnaire based on their opinions on the teaching-learning process.</p> <p>While the teacher is teaching the class, the two observers will observe the teacher's instruction, and make remarks by the provided scheme.</p> <p><b>Evaluating</b></p> <p>The teacher can also evaluate the students' achievement with some questions.</p> <ol style="list-style-type: none"> <li>1. How long have people been using wheels?</li> <li>2. Why did people use the rollers?</li> <li>3. Why did people use wheels instead of rollers?</li> <li>4. In ancient times, what do you think in what ways did the ancient people carry the heavy stones?</li> <li>5. How many types of wheels have you ever seen in your environment?</li> </ol> <p>And the teacher will evaluate the students' responses from the student questionnaire and observation scheme.</p> <p>Based on the results of these reflective tools, the teacher is going to plan the next session. If he found some weaknesses, he is going to modify them and create better instruction.</p>
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### Sample Lesson Plan for Reading Text Two by the RBIT Approach

1.	Teacher	-----
2.	Standard	Grade Ten (Age of 15-16 ya)
3.	Time duration	Five weeks (25 sessions - 45 mins each)
4.	Date	6 <sup>th</sup> July – 7 <sup>th</sup> August, 2020
5.	Title	A Brave Boy
6.	Objectives:	
	(i) General Objectives	<ul style="list-style-type: none"> <li>• To understand the whole story very well.</li> <li>• To understand the right decision is beneficial.</li> <li>• To understand the end of selfish, wrongdoers (mutineers).</li> </ul>
	(ii) Specific Objectives	<ul style="list-style-type: none"> <li>• To be able to lead the good personal, emotional, and social characters.</li> <li>• To be able to make the right decisions.</li> <li>• To be able to have good language skills (comprehension skills) by reading an interesting and adventurous story.</li> </ul>
7.	Procedures for 1 <sup>st</sup> session (45 mins)	<p>The procedures are based on the steps of the Reflection-Based Interactive Teaching (RBIT) approach.</p> <p><b>Planning</b></p> <p>In this session, the teacher is going to use <u>an Interactive Teaching Strategy (Combination of Bottom-up and Top-down approaches)</u> for students' comprehension of the passage.</p> <p>The teacher will select one paragraph.</p> <p>First, he will make model reading to the whole paragraph with the correct pronunciation. Then, he will make the students repeat after him sentence by sentence with meaningful chunks.</p> <p>After students' repetition, the teacher will ask the students to read the paragraph again themselves;</p> <p>Chorally, In Group, and Individually.</p> <p>After practicing correct pronunciation, the teacher will explain it by using the bilingual method.</p> <p><b>Top-down Approach</b></p> <p>For the top-down teaching, the teacher is going to give students background knowledge about the content of the text. Therefore, the teacher is going to use the technique (pre-teaching vocabulary) with the students. Therefore, he gives some unfamiliar words, phrases, clauses, and so on.</p> <p>Examples;</p> <p><i>Words:</i> coast, island, anchorage, crawl, bushes, tent, and so on.</p> <p><i>Phrases:</i> out of sight, to get there, hidden in a little tent, and so on.</p>

		<p><i>Clauses:</i> By the time I found the boat, where Ben Bun kept his boat, and so on.</p> <p>After giving such kinds of pre-teaching vocabularies, the teacher asks the students to learn these words, phrases, and clauses in their home first (so that they have the prior knowledge before the teacher's explanation to the text). If possible, the teacher can give the background content to the students, by using some ICT tools, such as videos/audios/films relating to the reading text.</p> <p>By using such kinds of background knowledge, the students are explained the text by linking the new knowledge to the text as a top-down approach.</p> <p><b>Bottom-up Approach</b></p> <p>The teacher is going to explain the text by word by word, sentence by sentence based on the grammar and correct pronunciation. While he is explaining these things, the teacher can refer to the students' prior knowledge that they had learned before about this content.</p> <p>Some examples;</p> <p><i>"I went towards the east coast of the island, keeping out of the sight of the anchorage to find the white rock where the Ben Gun's boat was kept."</i></p> <p>The teacher can explain by asking some questions like this; What is the coast? And island? (top-down approach)</p> <p>And the teacher explain the whole text, like this</p> <p>The subject "I", went to the east coast of the island. This sentence is past tense because this is the narrative story (bottom-up approach). Therefore, the students should know all stories were written in the past tense.</p> <p>And the teachers stimulate students' background schema like this;</p> <p>For the sentence, "keeping out the sight of the anchorage to find the white rock where Ben Gun's boat was kept", He can use a top-down approach by asking,</p> <p>What is anchorage? Does he want to be seen or not? What is the meaning of "keep out of the sight?" Why did he want to go there? Where was Ben Gun's boat kept?</p> <p>And the teacher let them interact with the bottom-up approach, by explaining the whole text;</p> <p>The word 'I' went to the east coast of the island to get the boat, but he did not want to be seen by anyone. Because the boat was kept in the while rock of the east coast of the island.</p> <p>In this way, the teacher can explain the text to the students by interacting with the top-down and the bottom-up approaches.</p>
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		<p><b>Acting</b> The teacher will act his teaching by following the above planning step which is based on the interactive teaching strategy.</p> <p><b>Reflecting</b> The teacher can make the students reflect by giving them some reflective questions. Example of reflective questions; <i>The students have to read the passage and answer the following questions.</i></p> <p>I went towards the east coast of the island, keeping out of sight of the anchorage, to find the white rock where Ben Gunn kept his boat. It took me some time to get there, often crawling among the bushes to hide, and it was evening by the time I found the boat, hidden in a little tent of goat skins. Ben Gunn's homemade boat was only a framework of tough wood, covered by goatskins that were stretched across it, and it was quite small, but it looked serviceable. I had not seen a coracle, such as the ancient Britons made, but I have seen one since, and that is what it was like. There was a small double-ended paddle.</p> <p><b>Complete the following sentences by reading the above passage.</b></p> <ul style="list-style-type: none"> <li>• ----- was like a coracle made by the ancient Britons.</li> <li>• The brave boy ----- among the bushes to hide.</li> <li>• The boat seems ----- though it was quite small.</li> <li>• ----- made the boat himself.</li> <li>• A little tent is made up of -----.</li> </ul> <p><b>Answer the following questions in complete sentences.</b></p> <ul style="list-style-type: none"> <li>• Why was the boy searching for the white rock?</li> <li>• How did the boy go to the white rock?</li> <li>• When did he find the hidden boat?</li> <li>• Who made the boat himself?</li> <li>• What was Ben Gunn's homemade boat like?</li> </ul> <p>The teacher is also going to use the student questionnaire after the above reflective questions. For teacher's reflection, After teaching with Interactive strategy, the teacher is also going to reflect his instructional events; reader, strategy, text, and task/activities by the student questionnaire and observation scheme. The student questionnaire is asked the students to fill the questionnaire based on their opinions on the teaching-learning process. While the teacher is teaching the class, the two observers will observe the teacher's instruction, and make remarks by the provided scheme.</p>
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		<p><b>Evaluating</b></p> <p>The teacher can also evaluate the students' achievement with some questions.</p> <ul style="list-style-type: none"> <li>• Where did the boy go in the story?</li> <li>• Where is Ben Gun's boat?</li> <li>• How did he go there?</li> <li>• How long did he take to get there?</li> <li>• What is the time when he found the boat?</li> </ul> <p>And the teacher will evaluate the students' responses from the student questionnaire and observation scheme.</p> <p>Based on the results of these reflective tools, the teacher is going to plan the next session. If he found some weaknesses, he is going to modify them and create better instruction.</p>
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### Sample Lesson Plan for Reading Text Three by the RBQA Teaching

<p>1. Teacher</p> <p>2. Standard</p> <p>3. Time duration</p> <p>4. Date</p> <p>5. Title</p> <p>6. Objectives:</p> <p>(i) General Objectives</p> <p>(ii) Specific Objectives</p> <p>7. Procedures for 1<sup>st</sup> session (45 mins)</p>	<p>-----</p> <p>Grade Ten (Age of 15-16 <del>ya</del>)</p> <p>Five weeks (25 sessions - 45 mins each)</p> <p>10<sup>th</sup> August– 11<sup>th</sup> September, 2020</p> <p>Evaporation</p> <ul style="list-style-type: none"> <li>• To understand the nature of evaporation.</li> <li>• To understand the usages of vocabularies about the evaporation process.</li> <li>• To comprehend the whole story very well.</li> <li>• To be able to answer the questions about the evaporation process.</li> <li>• To be able to use the knowledge of evaporation in daily lives.</li> <li>• To be able to have good language skills (comprehension skills) by reading an interesting story.</li> </ul> <p>The procedures are based on the steps of the Reflection-Based Questioning Approach (RBQA).</p> <p><b>Planning</b></p> <p>In this session, the teacher is going to use <i>the questioning strategy (Initiate-Response-Evaluate Model)</i> for students' comprehension of the passage.</p> <p>The teacher will select one paragraph.</p> <p>First, he will do the model reading to the whole paragraph with the correct pronunciation. Then, he will make the students repeat after him sentence by sentence with meaningful chunks.</p> <p>After students' repetition, the teacher will ask the students to read the paragraph again themselves;</p> <p>Chorally, In Group, and Individually.</p> <p>After practicing correct pronunciation, the teacher will explain it by using the bilingual method. He is going to explain the first sentence.</p> <p><b>Initiate</b></p> <p>And He asks the students a question (both open-ended and closed) randomly or in the whole class such as;</p> <p>Have you ever seen small drops of water in the grass in the early morning?</p> <p>Where do they come from?</p> <p>What happened to them after the sun comes out?</p> <p><b>Response</b></p> <p>The individual (randomly) or the whole class will answer orally by looking for the answer from the textbook.</p>
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		<p><b>Evaluate</b>  And the teacher will write down their answers on the board, and if they are wrong in grammar or in different ways, he is going to correct them simultaneously.  Next, the teacher is going to explain the paragraph sentence by sentence and ask the following questions after each sentence like the above way.</p> <ul style="list-style-type: none"> <li>• What can you see on the ground after the rain has fallen?</li> <li>• What happened to the small ponds when the sun comes out?</li> <li>• Where has the water gone to?</li> <li>• Do you think all water has sunk into the ground? Why? Why not?</li> <li>• Where has the water in small ponds on the hard rock gone to?</li> <li>• Can they sink into the hard rock?</li> <li>• Can you see the water leaving these small ponds?</li> <li>• What is water vapor? Where do they come from?</li> <li>• Can you see it?</li> <li>• What is evaporation?</li> </ul> <p>Based on the students' answers, he will give feedback as necessary.</p> <p><b>Acting</b>  The teacher will act his teaching by following the above planning step which is based on the questioning strategy.</p> <p><b>Reflecting</b>  The teacher can make the students reflect by giving some reflective questions to the students.  Example of reflective questions;  <i>The students have to read the passage and answer the following questions.</i></p> <p><b>Read the passage.</b>  Where the rain has fallen, you see little pools of water which collect in hollows in the ground. When the rain stops and the sun comes out, have you noticed what happens to these pools? Do they change in any way? Yes, the amount of water in each pool gets smaller and smaller, if no more rainfalls. Where has the water gone to? A little of it may have sunk into the ground: but most of it must have gone into the air because there is nowhere else for it to go.</p> <p><b>Complete the following sentences by reading the above passage.</b></p> <ol style="list-style-type: none"> <li>1. After the rain had fallen, there was a little water in -----  -in the grounds.</li> <li>2. We can notice that the water in the pools ----- if no more rainfalls.</li> <li>3. When the rain stops and the sun comes out, the pools of water can -----.</li> </ol>
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	<p>4. A little of the water may ----- into the ground.  5. Some of them may ----- into the air.  <b>Answer the following questions in complete sentences.</b>  6. What do you often see when rain has fallen?  7. What happened to the pools of water when the rain stops and the sun comes out?  8. Do they change in any way?  9. Where has the water in the pools gone to if no more rain falls?  10. Apart from sinking into the ground, where has the water in the pools gone to?</p> <p>For teacher's reflection,  After teaching with Questioning strategy, the teacher is also going to reflect his instructional events; reader, strategy, text, and task/activities by the student questionnaire and observation scheme.  The student questionnaire is asked the students to fill the questionnaire based on their opinions on the teaching-learning process.  While the teacher is teaching the class, the two observers will observe the teacher's instruction, and make remarks by the provided scheme.</p> <p><b>Evaluating</b>  The teacher can also evaluate the students' achievement with some questions.  1. How does water disappear from the hollows in hard non-porous rock?  2. Why can a piece of wood swim in water?  3. What is the water-vapor?  4. Which can we see from these two; the water-vapor and liquid water?  5. Why can the water-vapor float in the air?  And the teacher will evaluate the students' responses from the student questionnaire and observation scheme.  Based on the results of these reflective tools, the teacher is going to plan the next session. If he found some weaknesses, he is going to modify them and create better instruction.</p>
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## APPENDIX H

### Evaluation Form for the Efficacy of the Reflective Teaching Model for Reading Comprehension (RTMRC)

**Name:**

**Field and Position:**

*This evaluation form is designed to collect data for developing RTMRC in teaching students the reading comprehension in ELT. Please take time to think about your responses and indicate your agreement or disagreement by circling your response.*

Statements	Strongly disagree	Disagree	Agree	Strongly agree
1. Step 1, Planning is appropriate.	1	2	3	4
2. Step 2, Acting is appropriate.	1	2	3	4
3. Step 3, Reflecting is appropriate.	1	2	3	4
4. Step 4, Evaluation is appropriate.	1	2	3	4
5. The steps in RTMRC are clear and easy to implement.	1	2	3	4
6. The outcomes can be measured in a reliable and validity way.	1	2	3	4
7. The RTMRC is empirical, iterative, and self-correcting.	1	2	3	4
8. Each element of RTMRC has appropriate connection.	1	2	3	4
9. The RTMRC can help students' reading comprehension.	1	2	3	4
10. The RTMRC has sufficient capacity to be able to teach students' reading comprehension.	1	2	3	4

**Open Comments/Suggestions**

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**APPENDIX I**  
**Ethical Approval Letter**

