

การพัฒนารูปแบบการเรียนการสอน โดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิด
เพื่อเสริมสร้างความสามารถในการอ่านภาษาอังกฤษอย่างมีวิจารณญาณ
ของนักศึกษาปริญญาบัณฑิตในประเทศกัมพูชา



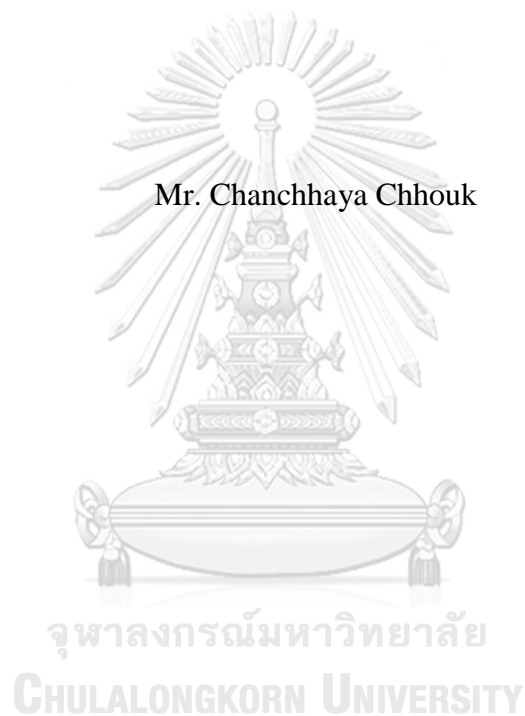
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DEVELOPMENT OF AN INSTRUCTIONAL MODEL INTEGRATING
WEBQUEST LEARNING APPROACH AND REFLECTIVE PRACTICE
TO ENHANCE ENGLISH CRITICAL READING ABILITY
OF UNDERGRADUATE STUDENTS IN CAMBODIA

Mr. Chanchhaya Chhouk



A Dissertation Submitted in Partial Fulfillment of the Requirements
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Department of Curriculum and Instruction
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Thesis Title DEVELOPMENT OF AN INSTRUCTIONAL MODEL INTEGRATING WEBQUEST LEARNING APPROACH AND REFLECTIVE PRACTICE TO ENHANCE ENGLISH CRITICAL READING ABILITY OF UNDERGRADUATE STUDENTS IN CAMBODIA

By Mr. Chanchhaya Chhouk

Field of Study Curriculum and Instruction

Thesis Advisor Assistant Professor Ruedeerath Chusanachoti, Ph.D.

Thesis Co-Advisor Malinee Prapinwong, Ph.D.

Accepted by the Faculty of Education, Chulalongkorn University in Partial Fulfillment of the Requirements for the Doctoral Degree

..... Dean of the Faculty of Education
(Associate Professor Siridej Sujiva, Ph.D.)

THESIS COMMITTEE

..... Chairman
(Associate Professor Aumporn Makanong, Ph.D.)

..... Thesis Advisor
(Assistant Professor Ruedeerath Chusanachoti, Ph.D.)

..... Thesis Co-Advisor
(Malinee Prapinwong, Ph.D.)

..... Examiner
(Assistant Professor Yotsawee Saifah, Ph.D.)

..... Examiner
(Pornpimol Sukavatee, Ph.D.)

..... External Examiner
(Assistant Professor Passapong Sripicharn, Ph.D.)

จันทร์ฉายา ชุก : การพัฒนารูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิดเพื่อเสริมสร้างความสามารถในการอ่านภาษาอังกฤษอย่างมีวิจารณญาณของนักศึกษาปริญญาบัณฑิตในประเทศกัมพูชา (DEVELOPMENT OF AN INSTRUCTIONAL MODEL INTEGRATING WEBQUEST LEARNING APPROACH AND REFLECTIVE PRACTICE TO ENHANCE ENGLISH CRITICAL READING ABILITY OF UNDERGRADUATE STUDENTS IN CAMBODIA) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผศ. ดร. ฤดีรัตน์ ชุมนะ โชติ, อ.ที่ปรึกษาวิทยานิพนธ์ร่วม: อ. ดร. มาลินี ประพัฒน์วงศ์, 166 หน้า.

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1) พัฒนารูปแบบการเรียนการสอนอ่านโดยใช้รูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิดเพื่อเสริมสร้างความสามารถในการอ่านภาษาอังกฤษอย่างมีวิจารณญาณของนักศึกษาปริญญาบัณฑิตในประเทศกัมพูชา 2) ตรวจสอบความสามารถในการอ่านอย่างมีวิจารณญาณของนักศึกษาปริญญาบัณฑิตระหว่างก่อนเรียนและหลังเรียนรู้ด้วยรูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิด และ 3) ตรวจสอบพัฒนาการของความสามารถในการอ่านอย่างมีวิจารณญาณของนักศึกษาปริญญาบัณฑิตที่เรียนรู้ด้วยรูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิด การพัฒนารูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิดดำเนินการ 4 ระยะ ได้แก่ 1) ศึกษาความสำคัญของปัญหาและแนวทางจัดการเรียนรู้ 2) การพัฒนารูปแบบการเรียนการสอน 3) การศึกษาประสิทธิผลของรูปแบบการเรียนการสอน และ 4) การปรับปรุงรูปแบบการเรียนการสอน กลุ่มตัวอย่าง คือ นักศึกษาบัณฑิต สาขาวิชาภาษาอังกฤษ ชั้นปีที่ 2 มหาวิทยาลัยที่ได้รับการคัดเลือก จำนวน 11 คน ได้มาจากการเลือกแบบเจาะจง ระยะเวลาทดลอง 10 สัปดาห์ๆ ละ 3 ชั่วโมง รวม 30 ชั่วโมง เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูล ได้แก่ แบบวัดความสามารถในการอ่านภาษาอังกฤษอย่างมีวิจารณญาณ วิเคราะห์ข้อมูลโดยใช้ค่าสถิติ Wilcoxon Signed-Ranks test และการวิเคราะห์เนื้อหา

ผลการวิจัยพบว่า

1. รูปแบบการเรียนการสอนโดยใช้รูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิด ประกอบด้วย 5 ขั้นตอนการจัดการเรียนรู้ ได้แก่ กระตุ้นให้เกิดข้อสงสัย กำหนดภาระงาน แสวงหาวิธีการ สะท้อนวิธีการ และสรุปภาระงาน

2. ผลจาก Wilcoxon Signed-Ranks test แสดงให้เห็นว่า กลุ่มตัวอย่างที่เรียนรู้ด้วยรูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิดมีความสามารถในการอ่านอย่างมีวิจารณญาณหลังเรียนสูงกว่าก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ .05

3. กลุ่มตัวอย่างที่เรียนรู้ด้วยรูปแบบการเรียนการสอนโดยบูรณาการบทเรียนแสงความรู้บนเว็บกับการสะท้อนคิดมีพัฒนาการของความสามารถในการอ่านอย่างมีวิจารณญาณหลังจากเรียนรู้ด้วยรูปแบบการเรียนการสอนที่พัฒนาขึ้น

ภาควิชา หลักสูตรและการสอน

ลายมือชื่อนิติดี

สาขาวิชา หลักสูตรและการสอน

ลายมือชื่อ อ.ที่ปรึกษาหลัก

ปีการศึกษา 2560

ลายมือชื่อ อ.ที่ปรึกษาร่วม

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CHANCHHAYA CHHOUK: DEVELOPMENT OF AN INSTRUCTIONAL MODEL INTEGRATING WEBQUEST LEARNING APPROACH AND REFLECTIVE PRACTICE TO ENHANCE ENGLISH CRITICAL READING ABILITY OF UNDERGRADUATE STUDENTS IN CAMBODIA. ADVISOR: ASST. PROF. RUEDEERATH CHUSANACHOTI, Ph.D., CO-ADVISOR: MALINEE PRAPINWONG, Ph.D., 166 pp.

The purposes of this study were 1) to develop an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students, 2) to investigate the effectiveness of the instructional, and 3) to investigate undergraduate students' English critical reading ability development learning with the instructional model. The research and development processes were divided into four phases: 1) studying of the significance of the problem and learning approaches, 2) developing of the instructional model integrating WebQuest Learning Approach and Reflective Practice, 3) Studying the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice, and 4) Revising and developing the instructional model integrating WebQuest Learning Approach and Reflective Practice. The sample consisted of 11 second-year undergraduate students majoring in English as a foreign language at the Faculty of Language, Arts, and Humanities in a university in Cambodia. The sample were purposively selected and studied with the newly developed instructional model for 10 weeks, total of 30 hours. The instrument was the English critical reading ability test. Quantitative statistic used in this study was Wilcoxon Signed-ranks test. Qualitative data were analyzed using content analysis.

The results showed that:

1. The instructional model integrating WebQuest Learning Approach and Reflective Practice consisted of five learning steps: 1) Generating skepticism, 2) Assigning the Quest, 3) Exploring the Quest, 4) Reflecting the Quest and 5) Concluding the Quest.

2. A Wilcoxon Signed-Ranks test indicated the sample (were taught with the instructional model integrating WebQuest Learning Approach and Reflective Practice) had significantly higher critical reading ability mean score in the posttest compared to those in the pretest at .05 level of significance.

3. The sample (were taught with the instructional model integrating WebQuest Learning Approach and Reflective Practice) resulted in the higher development of the English critical reading ability after experienced with the instruction.

Department: Curriculum and Instruction

Field of Study: Curriculum and Instruction

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Student's Signature

Advisor's Signature

Co-Advisor's Signature

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CHAPTER 1

INTRODUCTION

1. Background and significance of the problems

The great movements of life changing in the Twenty-First Century are very constant, and learning is considered as endless processes throughout life in different places and spaces. To reach the fullest quality of life by obtaining the Twenty-First Century qualifications and to thrive for tomorrow's leader, profession, and qualities as responsible citizens in a global society (Shor, 1999), the partnership of the Twenty-First Century learning has proposed learning framework as a foundation of collaborating partnership among education, business, community, and government leader. In addition, the elements of the proposed framework for the Twenty-First Century student's outcomes are: contents knowledge and Twenty-First Century themes, learning and innovation skills, information, media and information skills, and life and career skills (Ananiadou & Claro, 2009). However, a key question to answer all the needs is what can be used to achieve, not all, but the most of the requirement for the student's outcomes.

In response to the needs of the Twenty-First Century themes, critical reading is the most suitable solution because it emerges as a critical skill. Critical reading is not only the center on reading to learn for K-12 education, but it is also an essential life skill for postsecondary outcomes, such as employment and out going to college or tertiary level (Conley & Wise, 2011; R. C. Pirozzi, Starks-Martin, & Dziewisz, 2007). Without the ability to read critically, opportunities for personal fulfillment and job success will be limited to some extent (R. C. Anderson et al., 1988). Some further argue that reading comprehension alone is not enough, especially in the world where online information is overwhelmed and easily accessed (Borst, 2017). For instance, online information is considered as pre-digested at best or can be biased and outright false at worst. In addition, students are often recommended to dismiss online or secondary sources not peer-reviewed by experts in the related field (Hamlin, 2017). Thus, critical reading comes to play.

Furthermore, like critical thinking, critical reading is a contemporary educational term which is much discussed about by educators from elementary education through university study. The ability to read critically including analyzing a text, understanding its logic, evaluating its evidence, interpreting it creatively, and asking searching questions of it, is essential for higher-order thinking. Skill in critical reading builds students' confidence, enriches their understanding of the world, and enables their successful educational progress. Critical reading informs academic writing, particularly analysis and argument, inquiry and exploration – modes of writing required across academic disciplines (DiYanni, 2017). Moreover, reading skill, critical thinking skills, and English language, are categorized as prominent elements to prepare students for the future. For example, great variety of text books, research articles and other learning materials are published using English language as means in delivering new knowledge. Thus, students with great English language proficiency will have more options to access to those up-to-date information, or even greater options when they do more reading or accessing through world wide web (WWW). Regarding to the Internet, it is currently considered as the fastest and the easiest way to consume variety of information and this technology also becomes an important component for education (Taylor, 2002). Thus, to take the most from this modern technology, it requires well-prepared lesson plans from enthusiastic teacher and students' higher order of thinking; yet the discussion on how to enhance the high order thinking remains the greatest issue in field of education.

In Cambodia's learning context, higher education is still in a phase of a rapid, largely unregulated, expansion with an estimated 60,000 tertiary students in just over 50 institutions, of which 80 percent are private. Most growth is in the private sector (Ford, 2015). Regardless of the number of students' enrollment and the number of institutions, the quality of many institutions is still a cause of concern, considering the high unemployment rates among graduates. Accurate figures are notoriously difficult to obtain in Cambodia, but estimates at present put unemployment among graduates from public universities, one year after graduating, at about 30 percent and as high as 90 percent from the private universities, in spite of the relatively small proportion of students from the private universities graduates only get employment in fields

unrelated to their studies, indicating a mismatch between higher education provision and labor force needs (Ford, 2015).

Responding to the challenge in Cambodian higher education, the Ministry of Education, Youth, and Sport has established the higher education technical working group to debate, discuss and find solutions to higher education issues (MoEYS, 2013). Another major challenge in higher education is the mismatch between the needs of the labor market in terms of skills, critical thinking ability and knowledge and the current products on the market (Ford, 2015; MoEYS, 2013). In addition, English language is also another challenge in higher education since human capital needed to be ready for the free market economy such as the integration of Association of Southeast Asian Nations (ASEAN) and the World Trade Organization (WTO) (Kluttz, 2015). In response to the needs and plan provided from the Ministry of Education, Youth and Sport in preparing human capital for local and global labor market, and living prosperously in the Twenty-First Century, critical reading skills is one of the key solutions since critical reading is not only important by itself, but it also embeds higher order of thinking and acts as compulsory activities in develop language skills as well (Langer, 1981).

Using information and communication technology (ICT) in learning context has both benefits and challenges. For instance, information online can be accessed and used in many different ways for inquiry, communication, expression, and construction of knowledge (Bruce & Levin, 1997). At the same time, it provides great opportunities not only for working collaboratively (Maddux & Cummings, 2007), but also for enhancing complex thinking skills through authentic problems embedded in the ICT itself (Bradshaw, Bishop, Gens, Miller, & Rogers, 2002; Owens, Hester, & Teale, 2002). In contrast, the main challenge of implementing ICT with learning is navigational disorientation (Bradshaw et al., 2002). This simply means that students might be overwhelmed by the great amount of information and lost track of their search subject or simply become fatigued. In addition, the nonlinear hypertext environment of the Internet means that information is sometimes unorganized, which place a significant cognitive demand on students to make appropriate connection

between concepts (Lou & MacGregor, 2001). These drawbacks of ICT lead to further innovative studies in optimizing the good uses of WWW.

In recent decade, Dodge (1995) comes up with a great concept of integrating an inquiry-based learning activity with computer technology to engage students collaboratively or individually to search and evaluate authentic information from the online resources in order to construct their new knowledge, which is called WebQuest. According to Dodge (1995), WebQuest is the learning model, while WebQuest Learning Approach is rooted from constructivism, inquiry learning, scaffolding and collaborative learning. The six critical features of WebQuest are an introduction that explain the activity and provides background information, task that is feasible and interesting, sets of information source needed to complete the task, a description of process that guide students to keep on track, and evaluation outline criteria for each assigned task, and a conclusion which is the result of students' evaluation to their task. With these features of WebQuest model from previous studies (Alessi & Trollip, 2001; Bitter & Legacy, 2007; Dodge, 1995; Geisert & Futrell, 1999; Greer, 2001; Jonassen, 2000; Vidoni & Maddux, 2002), it is also asserted that WebQuest Learning Approach is able to promote high thinking skills, and reflect a learner-centered instructional methodology (Lahaie, 2008).

Another contemporary approach used for professional development, the reflective practice approach, has provided a great contribution in the field of education (Finlayson, 2016; Naci Kayaoğlu, Erbay, & Sağlamel, 2016; Rourke & Rees, 2015). Based on the reflection theory and the notion of reflective grounded in the theory of inquiry and conception of social values (Willower, 1994), the reflective practice was later advanced by (Schon, 1983; Schön, 1987) through the advancement of organizational learning occurring when individuals within and organization experience a problematic situation and inquire into in to the organization's behalf (Robinson, 2001), with this advancement proffered by (Schön, 1987) often considered the seminal roots of reflective practice.

According to the key focus on enhancing students' English critical reading abilities at undergraduate level, the instructional model is needed. In addition, the above review of the WebQuest Learning Approach and related studies showed the

significance of the learning outcomes, namely language skills (Aydin, 2016; Schweizer & Kossow, 2007) and high order thinking skills (R. Zheng, Perez, Williamson, & Flygare, 2008). However, the instruction merely with WebQuest Learning Approach is not recommended since some learning qualification cannot be taught by only technology or online resources (Kleemans, Segers, Droop, & Wentink, 2011). Moreover, there was no any significant study on using WebQuest Learning Approach to strengthen the quality of the learning outcome, which Reflective Practice comes to play. Reflective practice helps to enhance great level of awareness and create opportunities for learning development (Osterman & Kottkamp, 1993; Schon, 1983; Schön, 1987).

In conclusion, the initial reviewing of the importance of higher order thinking skills, critical reading, and WebQuest have led to several hypotheses about how reading instruction might be improved. In this regard, researcher attempts to develop an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading of undergraduate students in Cambodia.

2. Research questions

The research questions addressed in this research were as follows:

1. What did the instructional model integrating WebQuest Learning Approach and Reflective Practice look like?
2. Did the instructional model integrating WebQuest Learning Approach and Reflective Practice enhance undergraduate students' English critical reading ability?
3. How did the students develop their English critical reading ability after learning with the instructional model integrating WebQuest Learning Approach and Reflective Practice?

3. Research objectives

The objectives of this research were:

1. To develop an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia.
2. To investigate the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice by comparing undergraduate students' English critical reading ability before and after learning with the model.
3. To investigate the students' English critical reading ability development learning with the instructional model integrating WebQuest Learning Approach and Reflective Practice.

4. Research hypothesis

In response to reading problems of undergraduate students, especially in the Cambodia context, the researcher has been trying to investigate the true causes of those problems and have found out that most of all the stems of problems are from limitation of the ability in critical reading. The researcher has then been looking for the effective instructional models, processes, methods, and techniques to help students and teachers cope with those causes and, from a bunch of research bodies, has discovered that WebQuest Learning Approach could be a remedial solution. In studies conducted in lower-secondary teachers, the used WebQuest, a computer program developed using WebQuest Learning Approach, significantly improved evaluation skill and synthesizing skills in reading (Polly & Ausband, 2009). According to Luu Trong (2011) WebQuest Learning Approach significantly improved second year English as a foreign language students' reading skill. It also had positive attitude towards the implementation of the reading program. In addition, Aydin (2015) reviewed the theoretical framework of WebQuest Learning Approach in language-learning. The results showed that it helps English as a foreign language and English as second language undergraduate students to improve interaction, communication, high order thinking skills, knowledge application, and social skills, scaffolded learning, and problem-solving skills. Moreover, it helped learners to acquire and learn

linguistic and extra-linguistic knowledge in a secure atmosphere in the processes of both second-language acquisition and foreign language learning. In addition, a number of studies over the past years have demonstrated that Reflective Practice positively affect in developing awareness. There are also some significant evidences from Reflective Practice in field of education as well. According to (Branch Jr, 2010; Canniford & Fox-Young, 2015; Clegg, Tan, & Saeidi, 2002; Naci Kayaoğlu et al., 2016) Reflective Practice increased awareness of tertiary-level novice teacher toward their professional deployment.

According the related literatures, the hypothesis of this research was that the students' English critical reading ability studying with instructional model integrating WebQuest Learning Approach and Reflective Practice were significantly higher comparing to before the instruction.

5. Scope of the study

This study was research and development of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of the undergraduate students. The scopes of this research were as follows:

1. There were two types of variables in this study.
 - 1.1. Independent variable was the instructional model integrating WebQuest Learning Approach and Reflective Practice.
 - 1.2. Dependent variable was the English critical reading ability.
2. This study was implemented with 11 second-year undergraduate students, who were purposively selected from the Faculty of Language, Arts and Humanities, at one university in Phnom Penh, Cambodia, and studied English as a foreign language
3. The developed instructional model was implemented in Literature Studies 202 course. Two English literatures in the course were Oliver Twist, and The Old Man and the Sea, which were compulsory for the second-year students in the Faculty of Language, Arts and Humanities at the selected university in Cambodia. The two pieces of literature were in the curriculum of the selected university. The purpose of

Literature Studies used in this research was to enhance students' English critical reading ability.

4. The duration of the implementation the instructional model was 10 weeks with total of 30 hours. There were 2 sessions per week, and each session lasted 90 minutes. The implementation was conducted during the second semester of 2017 academic year.

6. Operational definition of terms

Certain terminologies used in this study may have various meanings to different individuals. In order to facilitate a common understanding among readers for the purposes of this study, the relevant terms were defined as follow:

English Critical reading ability referred to the proficiency in using 1) English language knowledge and word recognition to decode meaning from text and 2) high order thinking to question, to analyze and to synthesize of what is read. Critical readers must be able to 1) make inference of reading text, 2) evaluate information, and 3) draw conclusion.

1. Making inferences of reading text, reader should be able to read between the lines using the reader's background knowledge in order to understand what is not directly stated in a text. Reader has to either make an educated guess about the unknown word by using in-text hints; or construct meaning by integrating given hints in a text with personal background knowledge.

2. Evaluating information of reading text, reader should be able to make a logical judgment upon various aspects of information in a text. Reader has to either provide a specific explanation about purpose, tone, or point of view of an author; or make comparison or examine various aspects of the text such as: sources of information, facts or opinions, author's bias, figurative language, or point of view.

3. Drawing conclusion from reading text, reader should be able to combine particular facts together, or to make decision toward the reading itself. Reader draws a conclusion by either creating a new logical statement based on individual pieces of information from the text; or deciding whether to accept or reject the text based upon the results of the reader's evaluation.

WebQuest referred to a systematic process of inquiry-oriented instruction through six steps, namely introduction, task, process, evaluation, and conclusion (Dodge, 1995). The WebQuest was developed from grounded theories of constructivism, inquiry learning, scaffolding, and collaborative learning. These theories were called WebQuest Learning Approach in this study.

WebQuest Learning Approach referred to the constructivist inquiry-based learning framework of using authentic information in ICT environment as learning sources. The principles of WebQuest Learning Approach, which was not an already-made learning model, were used in this study. The learning principles of WebQuest Learning Approach were: 1) students' cognitive conflict functions as learning stimuli for searching information in order to respond to their skepticism, and re-conceptualizing their previous understanding, 2) learning is effective when the students interact with cooperative learning activities in order to co-construct knowledge and receive scaffolding from peers or the teacher, 3) learning processes are the string of acquiring, comprehending, and evaluating selected inputs through six attributes namely: introduction, task, process, resources, evaluation, and conclusion, and 4) meaningful learning occurs when authentic learning materials in information and communications technology form are purposively selected and well-sorted, and learning resources are well-organized in design.

Reflective Practice was a systematic concept based on reflection to generate students' learning awareness of their learning environment. Reflective practice helped students to question their current tasks and to revisit their learning experiences. This systematic concept also required high order thinking of the students to analyze and criticize what they have done. The learning principles of Reflective Practice were 1) students learn effectively when they are aware of their current task and learning environment that they are participating in, 2) learning experiences will be developed professionally when the students revisit, analyze and criticize what they have learned, 3) learning is enhanced when the students interact with their peers for exchanging criticism to their previous experiences, and 4) students develop their high order thinking skills through their reflection in what they are doing and reflection on what they have done for their learning experiences.

Instructional model integrating WebQuest Learning Approach and Reflective Practice was a guided teaching that had its principles derived from the WebQuest Learning Approach, which concerned with meaningful experiences through the inquiry of authentic resources in both ICT environment and other resources, namely books, posters, product labels, and Reflective Practice which posited students' awareness and ability development. The principles of the instructional model aimed to promote meaningful learning and awareness through the interrelation of students' skepticism and well-prepared learning sources of the teacher. There were five teaching steps in this instructional model: 1) Generating skepticism, 2) Assigning the Quest, 3) Exploring the Quest, 4) Reflecting the Quest, and 5) Concluding the Quest.

Information and communications technology (ICT) environment referred to the learning context of using both online and offline resources including computer, smartphone, and tablet.

Undergraduate students referred to learners in bachelor degree level of the Faculty of Language, Arts, and Humanities in Phnom Penh, Cambodia.

7. Benefits of the Study

The research findings were significant and useful in the following aspects:

1. It confirmed the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice in enhancing English critical reading ability of undergraduate students.
2. It could be another alternative for English instructors at university level to conduct the reading class more effectively by applying the instructional model integrating WebQuest Learning Approach and Reflective Practice.
3. Interested instructors are able to apply instructional model integrating WebQuest Learning Approach and Reflective Practice for improving critical reading ability and learning activities of their students.

CHAPTER 2

LITERATURE REVIEW

The literature review presents the related literatures and researches that help researcher to review, analyze and synthesize the key concepts of both dependent and independent variables of the present study. This chapter covers six areas as follow:

1. Reading
 - 1.1. Definitions of reading
 - 1.2. Reading process
 - 1.3. Levels of reading
 - 1.4. Reading instruction
2. Critical reading
 - 2.1. Definition of critical reading
 - 2.2. Critical reading and Critical thinking
 - 2.3. Components of critical reading
 - 2.4. Evaluation of critical reading
3. WebQuest Learning Approach
 - 3.1. Theoretical framework of WebQuest Learning Approach
 - 3.2. Principles of WebQuest Learning Approach
 - 3.3. WebQuest Learning Approach and critical reading
4. Reflective Practice
 - 4.1. Definition of Reflective Practice
 - 4.2. Theoretical framework of Reflective Practice
 - 4.3. Principles of Reflective Practice
 - 4.4. Reflective Practice and critical reading
5. Related research
6. Theoretical framework of this research

1. Reading

There are many aspects related to reading, namely definition of reading, reading process, levels of reading, and reading instruction. Therefore, research provides sophisticated review on each aspect. For instance, various connotations on reading will be mentioned in the definition of reading. Aspect anticipating in reading will be mentioned in the reading process. The category and hierarchy of reading are in the level of reading. How to improve reading will be reviewed in reading instruction.

1.1. Definitions of reading

There are many definitions given to the term reading from different view point primarily as: psycholinguistic (Crawley & Mountain, 1995; Garrod & Daneman, 2003; C. Wallace, 2003), decoding process (Crawley & Mountain, 1995), visual process (Crawley & Mountain, 1995), cognitive and individual (Crawley & Mountain, 1995; Cunningham, 1987; Oakhill, Cain, & Elbro, 2015; Snow, 2002), and metacognitive process (Crawley & Mountain, 1995).

For psycholinguistic, reading is views as the process by which readers collaboratively extract visual information from piece of written text and make sense of it (Garrod & Daneman, 2003; C. Wallace, 2003). This psychological definition embeds the questions such as how the readers extract the printed information, what and how the printed text relates to speech, and how a reader makes sense out of text during reading.

In cognitive and individual perspective, reading is simply viewed as an extraction of information from text (Gibson & Levin, 1975; Goodman & Niles, 1970), a meaningful interpretation of written text (Harris & Sipay, 1990), a subconscious and constructive of unlocking the meaning from a code message (Manzo & Manzo, 1999), or a learnable complex problem solving process (Oakhill et al., 2015; Schoenbach, Greenleaf, & Murphy, 2012).

Unlike the wide view of connotation on extracting information from the text or making a meaningful interpretation through an important process called decoding within an individual, C. Wallace (2003) defines reading as a social activities in which readers collaboratively convey meaning from text through the mediation of social and

cultural factors. The readers use different type of understanding to interpret the text in both micro and macro level of different understanding between reader and writer.

When it comes to reading for understanding or mostly replaced by reading comprehension, reading is not always and fast process especially among beginning readers, who struggle over individual words (McNamara, 2012). Starting with general view of reading for comprehension, Sochor (1958) literally views reading comprehension as the involvement between comprehending text using thinking process, which makes reading comprehension and thinking as inseparable process, or no reading without thinking. Dauzat and Dauzat (1981) defines reading as a process that involves mental activity, which is embedded in other communication abilities, and converts visual graphic into meaning. Acknowledging these components, reading is generally viewed as the process of communication with print as the stimulus. This means that the reading must process the printed stimuli and convert them into meaningful messages.

Another view of reading comprehension is based on meaning. Manzo and Manzo (1999) define the reading comprehension as an understanding of an author's intention through interpreting, implicating, and applying an author's message in a meaningful way. In this regard, Snow (2002) defines reading comprehension as simultaneous process in extracting and constructing meaning through interaction and involvement to emphasize both the importance and the insufficiency of the text. Moreover, comprehension in every reading is the combination of the reader who is doing the comprehending, the text that is to be comprehended, and the activity in which comprehension is a part. This connotation is in accordance with Clarke, Truelove, Hulme, and Snowling (2014) who define reading comprehension as conveying meaning and allows sharing of information, and ideas and perspectives. Thus, reading comprehension refers to an interactive process of conveying information from written language for successfully understood.

To sum up, the connotation of reading has various views. Through the psychological lens, reading is to make sense from visual message while the cognitive group defines reading as decoding process individually occurred inside readers' brain, or reading as collaborative activities in sharing meaning through social and cultural

factors. Despite these connotations, one thing in common about reading is to understand the printed text or visual graphic. Thus, reading, thinking and understanding generally come together since these three words refer to an interactive process of conveying information from written language for understanding.

1.2. Reading process

A broad view of reading component is presented by Snow (2002) as a complex skills that require reader's abilities, knowledge, and experiences in order to bring to the act of reading. In every reading, texts from any printed or electronic materials are broadly and internally constructed by reader and reader's activity. In consideration of any activities in reading, the purposes, processes, and consequences associated with the act of reading. All of the three dimensions define a phenomenon that occurs within a larger sociocultural context. Reading process, therefore, shapes and is shaped by the reader and the interaction between the three elements (Figure 1).

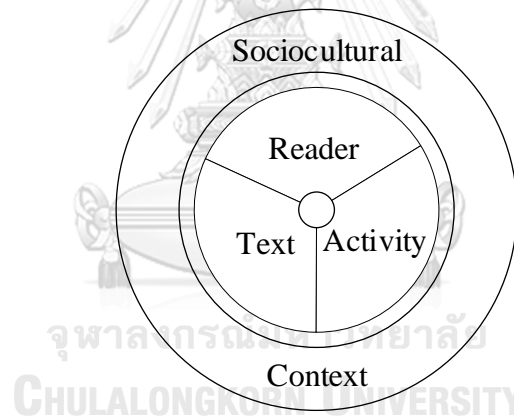


Figure 1 Reading process

Another explanation of reading process is based on cognitive which views the reading process as the arrangement of variety of cognitive skills, strategies and abilities (Clarke et al., 2014). Oakhill et al. (2015) also mention that this process occurs privately within an individual reader. It comes from the between language understanding and word reading, or language comprehension and word decoding as in work of Gough and Tunmer (1986). According to Gough and Tunmer (1986), word decoding refers to the ability to read single word out of context including letter-sound knowledge, accurate word decoding, and automaticity in decoding; while language

comprehension involves with abilities to understand words, sentences and text such as activating word meaning, understanding sentences, making inferences, comprehension monitoring, and understanding text structure. Figure 2 illustrates the combination between language understanding and word reading in every reading process.

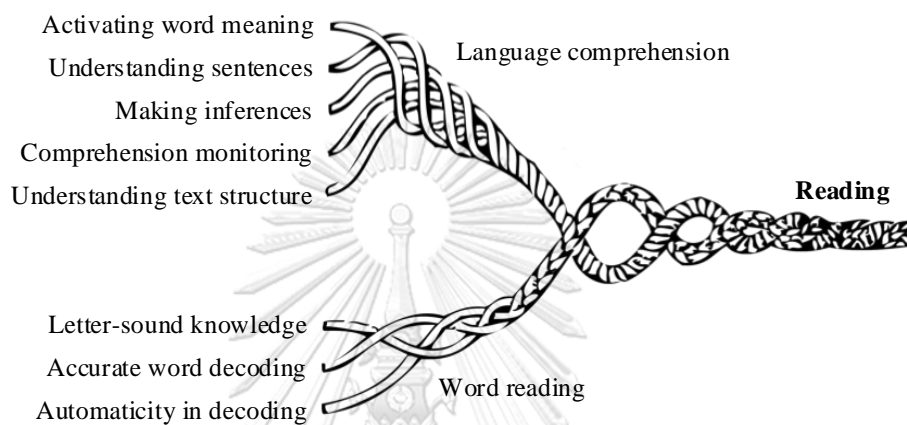


Figure 2 Language comprehension and word reading in reading process
(Scarborough, 2009)

Dauzat and Dauzat (1981) classify the reading processes into four aspects: mechanical aspect, word recognition aspect, comprehension aspect, and interpretation aspect.

Firstly, mechanical aspect, the reader responds to some mechanical or psychomotor processes. The reader's eyes must focus on the page of print, but not at random, since we read from left to right and from top to bottom. The reader's eyes must move across the page in the predetermined order as they see the stimuli. There are differences between the beginning reader and the independent reader in the mechanical aspect of reading. The beginning reader has more fixations per line of print than the mature reader. Although the durations of the fixation for beginners approximates that of the mature reader, the beginner perceives less per fixation, thereby necessitating more fixations per line of print. The beginner usually has more regression movements because he or she has less skills in anticipating and predicting meanings. Generally, the beginning reader relies more on the visual stimuli. For the

more skilled reader, only part of the total visual information may be necessary for the brain to translate them into meaning.

Secondly, word recognition aspect, the reading process is converting the printed symbol into the words for which they stand—converting the letters into the orally equivalent words. This aspect is also referred to as decoding, word attack, or word analysis. It involves the reader in making correspondences between the grapheme (written symbol) and its phoneme (unit of sound) and between entire written words and their spoken counterparts. The word recognition aspect results in pronunciation, either vocally, sub-vocally, or mentally, of the printed words.

Thirdly, comprehension aspect, the reading process also involves a comprehension aspect. This aspect involves the reader in converting the words themselves into meaning as well as capturing meaning from the way the individual words are put together to form sentences. The skilled reader makes predictions based on his or her knowledge of language and experience with similar content and verifies knowledge of language cues, such as acceptable word order, inflation ending indicating number of nouns, tense of verbs, comparison of adjectives, and other language redundancies (information that is duplicated by more than one source) to anticipate meaning and to self-correct where predictions are not verified. The reader used the previously verified information from the reading and continues to group it into larger units as other predictions are verified.

The last aspect of reading process is interpretation or reaction aspect. This aspect of reading requires high-level thinking skills. It is based on comprehension but extends understanding skills. It is based on comprehension but extends understanding of the message into a reaction to the message conveyed. The reaction may be a comparison or contrast of this message with a previous one. It might be an effective reaction such as disagreement with, happiness because of, enjoyment of, satisfaction with, or denunciation of the understood message. During this aspect of reading, the reader interacts with the printed message in light of past experiences.

The aspects of reading just mentioned may be viewed in a sequence as the reading process unfolds. The first aspect is interrelated with the next in that the efficiency of the subsequent aspects is dependent on the efficiency of the previous

one. For example, the child who has not completely developed the left-to-right sequence of the mechanical aspect will have difficulty in decoding words and may reverse words such as no for on. He may have difficulty in the comprehension aspect when he tries to gain meaning from the sequence of words in the sentence. This relationship is illustrated in [Figure 3](#).

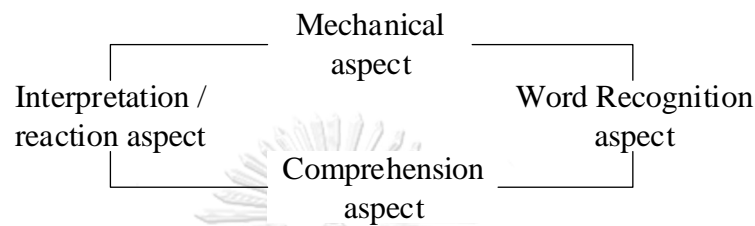


Figure 3 Diagram of relationship aspects of reading

[Harris and Sipay \(1990\)](#) emphasize the process of reading as the interaction between reader's recognition and perception of the graphic, linguistic information, cognitive skills, and knowledge about specific topic. Each component has great impact on reading process.

According to Harris and Sipay, the first aspect is word recognition, which helps readers to obtain the meaning through the recognition most of the printed words. Furthermore, the ability to recognize printed words allows readers to access metal dictionary in order to determine word meaning. As readers, therefore, bring prior knowledge to bear, the response to the first words sets up an anticipation for meaning that, if appropriate, aids in recognizing the words that follow. In contrast, if word recognition is very inaccurate, or the sentences are run together or misphrased, the resulting approximation to language is not close enough to convey the intended meaning.

The second aspect is linguistic information. In this aspect, words are identified and placed in short-term memory, and recalled while the reader attempts to comprehend the ideas embodied in a sentence. At this point, syntactical knowledge comes into play. As sentences are understood, their meanings are integrated with

those of already-read sentences, as well as with the reader's prior knowledge, and continually more complete understanding of the text emerges.

In the third aspect of reading process, cognitive skills, [Harris and Sipay \(1990\)](#) mention that specifically word recognition skills, continue to develop as the reader's reading ability matures. Words that appear frequently in print are recognized accurately and automatically, and new words are continually add to the child's store of words recognized sight. Skills in decoding printed words is acquired concurrently so that the child can become independent in word recognition.

The fourth aspect of reading process, knowledge of a specific topic helps reading becomes reflective and evaluative. This simply mean that grasping the meaning and organization of an author's ideas is important, but not sufficient. Therefore, experienced readers compare the facts and arguments presented by one author with those of another, and are on the alert of error in logic. In short, if there are any weaknesses among the four aspects, or breakdown in processing and integrating information from any of them, reading comprehension can be disrupted ([Harris & Sipay, 1990](#)).

In short, the views of reading process can be categorized by its complex skills or cognitive process. For those, who view reading process as complex skills, define reading process as the combination between the reader, the text, and the reading activity within a large sociocultural context. On the other hand, reading process is viewed according to complex cognitive process as the combination between language comprehension and word reading. However, one thing in common about the reading process is the reader is the only person who perform the cognitive process along with the purpose of conveying meaning.

1.3. Levels of reading

Levels of reading, or sometimes called levels of comprehension, have been categorized differently according to reading scholars' perspective. For instance, to some categorize levels of reading by cognitive behavior ([Smith, 1969, p. 255](#)), the use of skills complexity during reading ([Dauzat & Dauzat, 1981](#)).The details encompass each level of reading by different scholars are mentioned in the following parts.

Smith (1969) categorizes comprehension into four levels based on thinking skills, while (Reid, 1981) uses cognitive behavior identified by Bloom, Englhart, and Krathwohl (1956, p. 207) as a filter. However, the connotations of each level are similar. The four level of comprehension are: 1) literal comprehension, 2) interpretation comprehension, 3) critical comprehension, and 4) creative comprehension. Firstly, literal comprehension is first level of the list which has no special relation with thinking skills. Reader in literal comprehension level does not have to perform any meaning gathering. Second level is interpretation comprehension, which is categorized as usable in thinking skills, which the interpretation engages for greater depth than literal comprehension by concerning with supplying meanings not directly stated in the text. In the third level, critical comprehension involves not only with literal and interpretation level, but goes further. The reader in this level mainly counts on evaluation by passing personal judgment on the quality, the value, the accuracy, and the truthfulness of what is read. The fourth level is creative reading, also the most controversy concept as well. In creative level, the reader has to synthesis what is read. It starts as an inquiry arising in the mind of the reader, and carries forward with high motivation with the sense of urgency.

Regarding to the levels of reading mentioned by Smith (1969) and Reid (1981), Cunningham (1987) define the distinction between critical comprehension and creative comprehension differs only the process of comprehension and the product of comprehension, yet both levels involve heavily with the use of prior knowledge. He further asserts that the production of comprehension, in fact, is retained in semantic memory that may be described as literal, inferential and creative depending on the mixture of textual and schematic elements which make them up. These distinctions, he adds, are not distinct level of comprehension, but are levels for overlapping areas on a continuum between the purely textual or literal and the purely schematic or creative. Thus, later classifications on levels of reading are normally divided into only three levels, literal, interpretation, and critical reading.

Dauzat and Dauzat (1981) define reading comprehension as skills complexity. Despite unclear consensus view on the exact level of reading comprehension. There remains an agreement on the reading performance difficulties. Thus, the continuum of

complexity is paralleled by understanding at literal, inferential and critical reading (Figure 4).

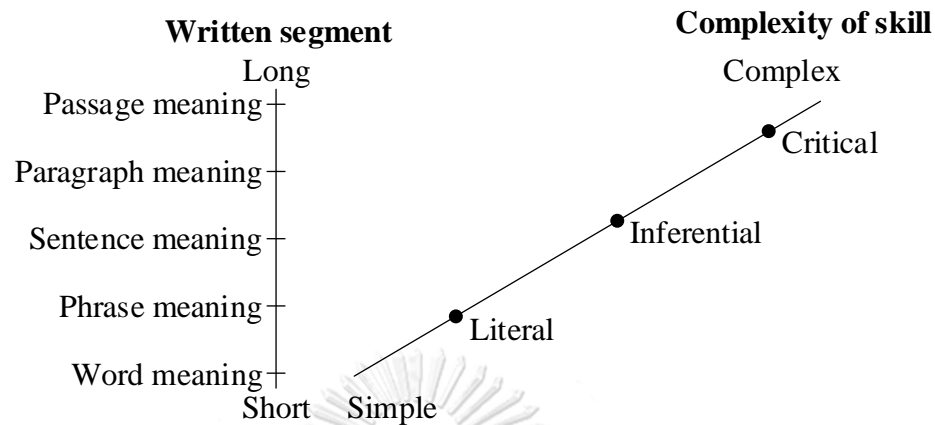


Figure 4 Reading comprehension level based on skill complexity
(Dauzat & Dauzat, 1981)

Literal comprehension is the easiest level. Reading at this level requires recall of details and facts specifically mentioned in the passage. At this level, the important data are provided by the author. The readers, however, receive surface message. The literal comprehension corresponds to Bloom's Taxonomy of cognitive domain, where reader is only required to recall specific information about facts, details, ideas at the knowledge level.

The highest level is critical comprehension, which is at the evaluation level of Bloom's Taxonomy of cognitive domain. In this level, readers need to evaluate what they are reading. The evaluation includes the distinction between facts and opinions, recognition of the author's purpose, and tone. Moreover, readers have to conclude what is read through synthesizing of different sources in the related topic before reaching conclusion.

Readence, Bean, and Baldwin (1989) categorize level of comprehension based on how body of printed text. There are three levels: textual explicit, textual implicit, and experiential-based comprehension. This reading hierarchy is also supported by Cooter and Flynt (1996). They classify reading comprehension into three levels. The terminology of the first two levels, textual explicit and textual implicit, are respectively the same, except the schema-based level as the third level.

Reading involves with getting the facts as stated by the author of a passage in textual explicit level. The question asked comes directly from the text and the answer is explicitly cued by the language of the text. As a result, no inference is required to answer to the question. The answer is literally found on the page and the readers can actually point to the answer, or the readers read in the line. Simply, textual explicit comprehension requires readers to tell what the author said, and there is usually only one answer. Therefore, the answer to such questions has only right or wrong.

In textual implicit level, readers are required to think about their own answer since there is no explicit facts stated by the author, again answers may vary depending on each reader's experiential background. In fact, the less the text is involved and the more experiential background come into play, the larger the number of possible answer. Comprehension involves answering a question derived directly from the language of the text, but also requires the reader to derive answer when no obvious clues to it are visible in the passage. Thus, the relation between the question and the answer is implicit. Furthermore, it is necessarily requiring some logical inferring to get from the question to the answer. In other word, readers are asked to read between the lines.

Experiential-based comprehension results when a question is asked and the plausible answer is derived from the previous knowledge. Thus, the answer is not directly derivable from the text. Readers in this level involve with reading beyond the line since inference are heavily drawn from previous knowledge.

[Ruddell \(2005\)](#) categories reading comprehend into: literal comprehension, interpretive comprehension, and applied comprehension. Firstly, reading constructs meaning from reading the line that accurately reflects the author's intended message. Literal comprehension is text-explicit, thus, answer to literal question requires reader understanding of ideas stated directly in text.

For interpretive comprehension, meaning is derived by reading between the lines, in which the reader perceives author intent or understands relationships between text elements that are not stated directly. Interpretive comprehension is text-implicit; answer to interpretive question requires the reader to draw conclusion in response to

stated cause-effect relationship or comparisons, perception of nuance, or symbolic use of language and ideas.

In the third category is applied comprehension, where meaning is derived by reading beyond the line. The reader understands unstated relationships between information in the text and information in his prior knowledge. Applied comprehension is schema-implicit or experience-based. Thus, answers to questions at this level requires integration of new information into the reader's previous knowledge, from which new relationship emerge.

[Allen \(2005\)](#) categorizes reading according to skills used in certain level. There are three skills: vocabulary skills, comprehension skills, and critical thinking skills. In vocabulary skills, reader only have to recognize six types of context clues through word and punctuation clues, determine word meaning from context clues, and determine word meaning from word part clues. For comprehension skill, readers have to find the topic and main ideas of a paragraph by asking and answering two questions such as: find main idea sentence in paragraph, and determine imply main idea. In critical thinking skills, readers have to apply the same skills need in critical thinking. Those skills include making inference in which readers need to differentiate between connotative and denotative meaning and interpret figurative of language; and differentiating between facts and opinions. Moreover, readers have to logically identify support for their opinion. In this level, in order to comprehend text, readers need to make inferences for what is read. Simply, inference is a conclusion that readers draw based on their previous experience.

Concluding this section, it clearly shows that reading comprehension level can be divided differently base on thinking skills, level of cognitive behavior, or level of reading performance difficulties. However, its concepts remain the same. First literal level of comprehension or text-explicit recall, reader state or recall meaning directly form the text. There is not meaning-gathering by the reader; but just facts, details or ideas mentioned by the author. The second level of comprehension can be called as interpretive or inferential comprehension, or textual implicit, where reader has to read between the lines. In addition, reading at this level involves with thinking skills in order to infer or supply meaning from the text. Third level is critical or applied

comprehension, or schema-based comprehension; where reader has to read beyond the line. Moreover, reader need to infer of what is not stated in the text, evaluate the distinction between facts and opinions with supporting information, evaluate author's purpose of writing, and synthesize of what is read.

Dauzat and Dauzat (1981) define reading comprehension in terms of the units of learning, one can also think about it in terms of complexity of skills involved. Although there is no clear consensus about these levels of reading comprehension, there does seem to be agreement that some skills re easier to perform while others are more difficult. This continuum of complexity is parallel by understanding at literal, inferential and critical reading level

Firstly, comprehension skills at literal comprehension require recall of details and fact specifically mentioned in the passage. At this level the important data are provided by the author. The reader receives surfaces messages. Skills this level corresponds to Bloom's Taxonomy of Cognitive Domain in the following ways. Both knowledge and comprehension levels re involved. At the knowledge level, the reader is required to recall specific information—facts, details, ideas—from the passage. All understanding at this level is passage dependent. At the comprehension level, the reader must have a basic understanding of the facts, details, ideas in the paragraph. The reader may demonstrate the understanding by giving examples or by paraphrasing the information.

Secondly, inferential comprehension, although based on literal comprehension, is at a higher level of thinking that literal comprehension. At this level the reader is required to use the information given in the passage in combination with his or her relevant background of experiences and get meanings that re not directly stated but are implied. The reader needs to read between the lines, or receive messages deeper than those at the surface. Skills at this level corresponds to Bloom's Taxonomy at the application level. The reader must use the stated facts, details, and other passage-given information to apply to a situation in which all of the information is not supplied.

Third, Critical comprehension level is considered as the most complex level of reading comprehension, the reader must utilize the literal meanings and the inferential

meanings in passage to relate them to concepts beyond what was given in the passage to related them to concepts beyond what was given in the passage. In the language of Bloom's Taxonomy, the skills at this level require analysis, or breaking down the whole selection into its parts to find the relationships, synthesis, or constructing new possible parts or relationships for the selections, and evaluation, or judging the materials by some criteria. Comprehension at this level requires divergent or evaluating thinking. Divergent thinking involves thinking of a diversity of possibilities, using the passage information as the catalyst of thought. Evolution involves determining the correctness, acceptability, value, or goodness of the information or a conclusion.

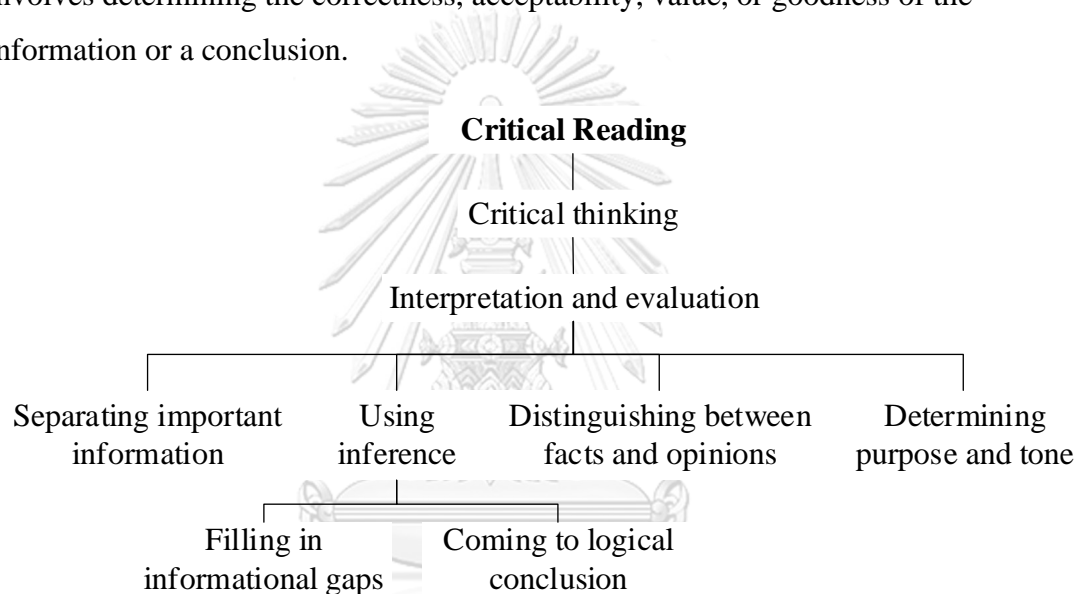


Figure 5 Diagram shows the complexity of skills in critical reading

1.4. Reading instruction

The purposes of reading instruction is not only to provide framework to develop proficient readers and prevent reading comprehension problems, but also giving students access to the important domains of knowledge pursuing affective and intellectual goals (Snow, 2002, pp. 29-44).

In reading instruction, models of reading function as the reading framework used to illustrate how readers comprehend a text and how the process of conveying meaning occurs (Harris & Sipay, 1990). Moreover, it describes the major working part of the actual process during reading to help readers to understand different skills and process involved with interpreting text, and apply to many reading situations at

various level of proficiency (Carr, McCauley, Sperber, & Parmelee, 1982; Clarke et al., 2014, p. 4). However, there is considerable controversy concerning the appropriate model of reading. It is important to be aware of models because they determine what a reading teacher believes about instruction and subsequently does in the classroom Gunderson (2009, p. 36).

Over the past few years, number of reading models have been formulated to describe what kind of cognitive process occur readers' brain, how it works, how meaning is conveyed, and so on. Despite thorny questions and explanation on the models of reading, three reading models: bottom-up, top-down and interactive model (Harris & Sipay, 1990; Manzo & Manzo, 1999; Rayner, Pollatsek, Ashby, & Clifton Jr, 2012) are likely to provide clear reading framework. The details of the relationship between reader, text and schema of each model will be illustrated in the following paragraph.

Firstly, the bottom-up model describes reading framework as a process of translating graphic symbols into speech during oral reading or into inner speech during silent reading. Then, the reader applies previously acquired listening comprehension skills (Harris & Sipay, 1990, pp. 12-14; Manzo & Manzo, 1999; Rayner et al., 2012). This can explain that the reader, in the first model, first pick up graphic information from the printed material before applying syntactic and semantic processes. In teaching reading context, Gunderson (2009) further recommend the teaching of skills such as phonic and letter-sound relationship to novice reader, since advocating of the skills helps student learn to read.

The second model in reading comprehension, top-down model, reader's prior knowledge and cognitive and linguistic competence play prominent roles in the construction of meaning, which the reader generates hypotheses regarding the meaning of the printed material based on the reader's prior knowledge shortly or after any graphic input (Harris & Sipay, 1990, pp. 12-14; Manzo & Manzo, 1999; Rayner et al., 2012). Since the top-down theorists believe that meaning resides in the heads of readers, not in prints; students should be assigned to read meaningful material for in order to develop their reading proficiency skill (Gunderson, 2009).

The third model of reading is the interactive models. In this model, a hypothesis generated by top-down processing is guided by the realists of bottom-up processing, and the bottom-up processing is guided in part by the expectations imposed by top-down processing (Harris & Sipay, 1990, pp. 12-14; Manzo & Manzo, 1999; Rayner et al., 2012). Thus, information derived from each kind of processing is combined to determine the most likely interpretation of the printed message. Nevertheless, the influence of each kind of processing is not equal in all interactive models. There has no any suggestion on what an interactive reading program would be (Gunderson, 2009).

In short, the three models of reading comprehension functions differently. Bottom-up model is considered as basis to all level of reading competence because reader encodes printed text to speech before processing the meaning. Simply, it builds from details and specifics toward a global concept. In other word, bottom-up processing best describes learning to read in the acquisition stage. In contrast, top-down model is mostly used by skilled readers because the meaning of printed text is generated directly using reader's background knowledge. Hence, novice readers differ from skilled readers only in their lesser command of the strategies needed to extract meaning from print to speech. In general, interactive model appears to hold the most promise as a basis for developing instructional strategies since the reader takes either an active or passive role, depending on the strength and accuracy of the hypotheses generated by top-down processing. Furthermore, interactive model reflects a broader range of factors describing what both beginning readers and skills readers must do when constructing meaning from the printed page and moving it into consciousness.

Eller and Wolf (1966) provide suggestions for teacher who seek to develop critical reading power among students either in language arts classes or in content field instruction. Critical reading ability cannot be assumed on the basis of good general or literal reading comprehension; the critical skills must be taught specifically. Even when critical reading skills are taught-and learned-by formal lessons, these skills may not be applied by students in practical reading situations; thus, students should be opportunities to utilize their critical ability in classes in the content fields. Since students with certain characteristics (such as high verbal intelligence) learn the critical

reading skills more efficiently than many of their age-mates, heterogeneous classes may need to be reorganized according to the types of patterns that are used to adjust instruction to individual differences in basic reading abilities. Even if instruction in critical reading has been excellent, a learner cannot be expected to manifest a high level of critical judgement if such judgement would place him in opposition to view of peer's groups or if he lacks of confidence in himself.

[M. J. Wallace \(2004\)](#) suggests that the first steps to becoming a critical reader through the establishment of reader own interim position by asking yourself questions like: have I any views on my own on this topic, and if so what are they? Have I read any other books/ article on this topic and what (in general terms) did they have to say about it? In addition, the reader has to remember that author may want to change reader's views after reading the text. At the same time receptive to the author's ideas and also critical of them, which can be a rather difficult process. One teacher at a prestigious university has stated that his ambition is to produce students who are "reasonable adventures", that is students who can be excited by new ideas, but also able to step back from them and assess them in a detached and rational way". Furthermore, readers have to decide how far they agree with a particular expert: experts often disagree, so they will probably have to agree with one of the other. They can't both be right. Last but not least, the reader is required to look carefully at the evidence they bring forward to support their case.

2. Critical reading

2.1. Definition of critical reading

Critical reading refers to the act of reading as a meaning construction process which entails higher-order abilities primarily because it is concerned with one's understanding of the ideas and concept in the text [Mohd Zin, Wong Bee, and Rafik-Galea \(2014\)](#). Thus, the conceptualization of critical reading ability is largely explainable through fluent execution of critical thinking skills in that reading and thinking are two independent skills and reading process cannot take without active use of thinking activities.

Critical reading is related to critical thinking in the engaging critically in reading means employing critical thinking skills while reading. These include analysis and inference skills. Reading critically differs from other forms of reading in that the reading act goes beyond the literal meaning by questioning the functions and purpose of the text. “reading with awareness of similarities and differences between what the reader has already seen and what he is seeing in the text he is reading”. It is clear that the process involves analytic thinking and evaluating what one reads (McLaughlin & DeVogd, 2004). It requires higher order cognitive skills and comprehension skills such as making inferences, reasoning and judging. These skills such are important in order to infer, compare, distinguish between fact and opinion, and identify the author’s intentions.

Besides sharing the same connotation of having a clear purpose before reading at any levels (Greenall & Swan, 1986; Sosothikul, 2007), critical reading is the most sophisticated level of understanding than literal level. It requires not only a contribution by both writer and reader and the interplay which usually result in a new understanding (W. Adams & Patterson, 2007), but also requires interpretation and evaluation skills that enable the readers to separate important from unimportant information, distinguish between facts and opinions, and determine a writer’s purpose and tone. (R. C. Pirozzi et al., 2007, p. 343). Moreover, critical reading also entails using inference to go beyond what is stated explicitly, filling in informational gaps, and coming to logical conclusion. These various skills require much thought, and that is why critical reading is dependent on critical thinking. Indeed, all of the characteristics of critical thinking skills such as interpretation, analysis, inference, evaluation, explanation, and self-regulation (Facione, 2007) are mostly applied to critical reading. Figure illustrates the relationship between critical thinking and critical reading skills.

W. Adams and Patterson (2007) define critical comprehension as a more sophisticated level of understanding than literal comprehension. Critical reading, therefore, require a contribution between author, the reader and an interplay which usually results in a new understanding.

R. C. Pirozzi et al. (2007) define critical reading as very high-level comprehension of written material requiring interpretation and evaluation skills that enable the reader to separate important from unimportant information, distinguish between facts and opinions, and determine a writer's purpose and one. It is also entails using inference to go beyond what is stated explicitly, filling in informational gaps and coming to logical conclusion. These various skills require much thought that is why critical reading is dependent on critical thinking. In deed all of the characteristic of critical thinking can be applied to critical reading. Critical reading requires 1) draw inference, 2) distinguish between facts and opinions, 3) recognizing purpose and tone.

C. Wallace (2003, p. 3) argues that in critical linguistics there tends to be too much emphasis upon the text as product and too little emphasis upon the processes of producing and interpreting text. At the same time, within ELT, while reading is well covered in the psycholinguistic and general methodology literature, there is little on critical reading in the second or foreign language classroom. Many models of second language reading have been ultimately reductive in their effects. For early learners, reading may be seen as decoding texts, pronouncing the words correctly or practicing language structure. For more advanced learners a comprehension view remains the dominate model.

Sosothikul (2007) mentions that critical readers will never accept any printed material without testing. They must be fully aware of the difference between fact and opinion. A fact is usually a scientifically provable phenomenon whereas an opinion is what the author thinks is true but cannot necessarily prove. Therefore, critical reading fundamentally involves comparing, analyzing and evaluating the information, and finally forming and opinion about the author's thoughts and presentation of fact. The real purpose of critical reading is to find or whether the details which the author presents actually support the idea or ideas he offers and the conclusion reader reaches.

Artley (1959) defines critical reading as the process of judging with severity the ideas expressed by a writer. It applies also to the nature of the reaction a reader makes to the ideas and to the use he makes of them. The development of the ability to interpret critically is responsibility of all teachers of all teacher on all levels. It

involves an understanding of the factors that condition an understanding of the factors that condition a high level of critical reading on the one hand, and on the other, a knowledge of the skills and ability that go into the act of critical analysis for each content area. Essential to its development is seeing that each student has purposes to be met through critical reading. The level of the analysis made will be as high as the level of the reading demands to be met

M. J. Wallace (2004, p. 31) define critical reading as an effective reading which is basically a matter of understanding what the writer is trying to say. This is indeed a necessary first step, but there is more to it than that. The reading process should not be a one-way process, where the reader is passive. Rather it should be an active and critical process.

In short, critical reading is the highest level of reading for comprehension hierarchy, comparing to literal and inferential reading, and it is closely related to critical thinking. For the procedure of critical reading, it requires a clear purpose before conducting the reading activity. Moreover, reader need to infer of what is not stated in the text, evaluate the distinction between facts and opinions with supporting information, evaluate author's purpose of writing, and synthesize of what is read. As a result, critical reading can be defined as reading with critical thinking or critical thinking in reading context. It starts with reasonable skepticism and finishes with logical evaluation and conclusion.

2.2. Critical reading and critical thinking

According to Facione (2007), critical thinking skill is the most important skill which is used during critical reading. In other word, critical reading is critical thinking in reading context.

Critical thinking is a metacognitive process, which require an individual to reflect on one own process. Critical thinkers, of course, reflect on own thinking process and able to ask essential questions related to concepts (Hohmann & Grillo, 2014, p. 38). Hence, critical thinking requires stepping back and reflecting in order to break down and reorganize one' thoughts, which can help in developing a strategy for affective questioning and reasoning.

Hohmann and Grillo (2014, pp. 224-241) define the characteristics of critical thinking as: flexibility, clear purpose, organization, time and effort, asking questions and finding answer, research, and coming to logical conclusion. Critical thinking is flexible thinking because it involves a willingness to consider various possibilities before coming to a conclusion. Critical thinker does not jump to conclusions or automatically accept what they first see, hear or read. They are willing to gather and consider additional information, even if it does not support what they initially think or want to do. Critical thinkers are aware of their initial feeling about decisions, issues, problems, or situation yet willing to look at other possibility before taking action. In the end, critical thinker may stick with their initial feeling, but only after much investigation and thought. Furthermore, critical thinking is deliberate thinking because it always involves a clear purpose, a specific goal. When you think critically, you are looking for reasons or explanation for event, considering various sides of an issue attempting to solve a problem, coming to a decision, or making sense of a situation.

Critical thinker also depends on organization to help them deal effectively with events, issues, problems, decision, and situations. In other words, critical thinker use organization, or carefully planning, to make the most productive use of limited time. In addition, critical thinkers are willing to take time away from other activities so that they can concentrate on a specific event, issues, problem, decision, or situation. Moreover, critical thinkers are aware of what is going on around them. They observe their surrounding carefully and put substantial effort into looking for causes, explanations, or reasons. In other words, critical thinker ask question continuously and are very patient and persistent when trying to find answers. Likewise, critical thinker is not only aware of their own feelings and opinions but also try to be aware of any prejudice or bias on the part of given source. In other words, our researcher would determine if the source is providing information that supports a particular point of view instead of being impartial or evenhanded. Finally, critical thinker try to come to logical conclusion about the events, issues, problems, decision, or situations they are considering. Conclusions are logical or reasonable if they are based solidly on the information or evidence gathered. Critical thinker always reconsiders their

conclusions to make sure that the evidence on which is based has not changed or that no new information has been uncovered.

[Halpern \(2002\)](#) states that critical thinking is generally used to describe thinking that is purposeful, reasoned, and goal directed, the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking tasks.

[Paul and Elder \(2013\)](#) describe critical thinking as the art of thinking about thinking, or the building block of thoughts ([Paul & Elder, 2001](#)), in order to make better thought that is more clear, more accurate, more defensible points to the continuing relevance and significance surrounding. Those elements of critical reading are: purpose, question at issue, concepts, point of view, information, interpretation and inference, assumptions, and implication and consequences. These elements guide the thinker the reasoning process by emphasizing that, when one is reasoning, one is working toward accomplishing a purpose, within a point of view, using concepts or ideas. The thinker focuses on a question or a problem, gathers information, and comes to conclusion based on his or her assumptions that collectively have implications. Each element can be defined by asking questions, which are detailed as follows. In academic study, critical thinking refers to the act of thinking as being a conscious and therefore, a teachable skill.

[Yates \(2016\)](#) views critical thinking is also one of the most difficult concepts to teach, particularly when there is only a short space of time to influence in some cases an entire lifetime of passively receiving information. However, as critical thinking is a skill, it too can only be developed with continual practice. Similar to how instructions can be mined for their skills and language development value, preparing students to do a task can also incorporate critical thinking. After setting up an activity as far as establishing the interaction pattern and materials that will be used, the students can then be asked to predict what they think they will be instructed to do.

According to [Facione \(2007, p. 9\)](#), the core critical thinking skills comprise from interpretation, analysis, evaluation, inference, explanation, and self-regulation.

Firstly, interpretation is to comprehension and expresses the meaning of significance of a wide variety of experiences, situations, data, events, judgment, conventions, beliefs, rules, procedures or criteria. It includes the sub-skills of cauterization, decoding significance, and clarifying meaning.

Secondly, analysis is to identify the intended and actual inferential relationship among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information or opinions.

Thirdly, evaluation as meaning to assess the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation.

Lastly, inference in critical thinking is to identify and secure elements needed to draw reasonable conclusions; or to inform conjectures and hypotheses. Explanation in critical thinking is to present a cogent and coherent way the result of one's reasoning. This means to be able to give someone a full look at the big picture. In addition, self-regulation in critical thinking refers to self-consciously control to cognitive activities, and the results used in those activities, and the result educed, particularly by applying skills in analysis and evaluation to one's own inferential judgments with a view toward questioning, confirming, validating, or correcting either one's reasoning or one's result.

2.3. Components of critical reading

Critical reading closely related to critical thinking, which is the highest thinking in the thinking process. Logically, it is extremely important that critical readers start their reading with specific purpose (Frager & Thompson, 1985, p. 677; Sosothikul, 2007). If readers do not know why they are reading a selection before starting reading; then what they read will have not only little meaning, but also not the most effective and economical approach concerning time and energy.

Likewise, critical reading proficiency in English for Academic Purpose (EAP) contexts are described by Garrigus (1999, p. xvi) at two levels of basic critical reading

skills and high-level critical reading skills. The basic level focuses on paragraph analyzing while the higher-level on making inference and evaluating. In basic level, reading skills entail the ability to find the main idea of paragraphs, multi-paragraph units and articles, identify idea patterns of organization, distinguish topical organization from organization by idea, and recognize transitions that signal relationships among pattern elements and supporting details. In high-level, critical reading skills require reader to draw inference and state implied main idea, distinguish fact and opinion, and logically evaluate evidences and synthesize two or more sentences.

Critical readers, moreover, need to have critical eyes (C. Wallace, 1995). They start reading with a clearly established purpose, and respond to critical reading purpose by asking question during reading to link the text to their purpose. They read between the lines and gather as much as information to help with distinguishing between facts and opinions presented by author.

Reading between the lines; distinguished from fact to opinion before judging about the printed materials; looking for bias; criticizing and analyzing; drawing an independent conclusion by synthesizing all related information (Shokrolahi, 2014, p. 219). Critical readers, furthermore, awaits an opportunity to discuss their critically acquire view on the topic.

According to Kobayashi (2010), critical reading requires higher order cognitive skills and comprehension skills such as making inferences, reasoning and judging. In this support, Shokrolahi (2014) defines characteristic of critical readers by reading all text with equal sympathy to discover and digest a wide range of points of view delivered by write, especially points of view that seem to be ignored among literal reader. To avoid bias in judging information and hidden assumptions, critical readers search for dissenting sources, and other information like place of publication, copyright date, etc. (Ross, 1981, p. 311).

Critical reading requires active involvement in the text in an in-depth and more complicated way rather than superficial and mechanical way (Karadağ, 2014, p. 890). Hence, Thistlethwaite (1990) propounds the view that the reader is given right to evaluate and to be decisive during critical reading. By the same token, learner goes

beyond the literal meaning by questioning the functions and purposes of the text (McLaughlin & DeVogd, 2004); knows how to reasonably critique, makes inferences about what is read, and defends his/her ideas critically and logically (Edelsky, 1999); checks the sources of the material being read and distinguishes between facts and opinions of the author (Ross, 1981); develops literal recall, draw conclusion and evaluating different opinions (W. Adams & Patterson, 2007).

C. Wallace (1995, pp. 336-342) defines the components of critical reading as 1) text, 2) readers and 3) classroom. However, the critical reading is not the three component itself, but the ability to relate all the three components.

W. Adams and Patterson (2007) define the skills needed for critical comprehension including: inferencing, distinguishing facts from opinion, recognizing an author intent and attitude, recognizing tone, and making critical judgment. First of all, inference in critical comprehension is another element in critical reading, because it is a conclusion or an opinion drawn from reasoning based on known factors or events. In addition, the second skills for critical comprehension is to distinguishing facts from opinion which is not always easy. In general, a fact is usually defined as truth, something which can be tasted by experimentation, observation, or research. An opinion, on the other hand, is hardly, to be proven to everyone's satisfaction. Thus, reader must be able to evaluated what is read and determine whether it is objective information from a reliable source or whether it is one person's expression of a personal belief. Third skills is to recognize tone, which is a manner of speaking writing that show a certain attitude on the part of a speaker or writer, it is the result of the intent attitude, and bias of an author. Finally, making critical judgment is a two-way decision since a reader must be aware of the judgment the author is making about the subject and reader also aware of the judgment that the reader make based on his own bias.

Triggs (1959) defines certain comprehension skills are necessary to critical reading: (1) ability to reading for main ideas and details and (2) to distinguish between the two, (3) ability to recognize inferences and (4) conclusion, and (5) ability to adapt the rate at which material are read to the situation met. In order to apply these comprehension skills, a reader must have, or gain as he reads, understanding of the

words used by the author. These understanding of words are gained from actual experiences, or from vicarious experiences which often come from reading. Thus, again the reading process leads to an apparent parallelism with learning in general, or with education itself as broadly conceived.

Harris and Sipay (1990) explain that reading comprehension test measure a student's ability to demonstrate his or her comprehension of the material contained in that test, which was read for particular purpose and under particular circumstance. Inferences drawn from such a relatively small sample of behavior with regard to the students' ability to comprehend other materials, as well as to read for different purposes (or even to read the same material for a different purpose) and under other conditions may or may not be accurate.

2.4. Evaluation of critical reading

Schumm and Post (1997) explain that an efficient reading depends on the ability to thinking critically. Many experts argue that active reading is the same as critical thinking. Readers read with brain, not with reader's eyes; reading is a thinking activity. When we speak specifically of reading critically, we are emphasizing the important role of evaluating or judging ideas, not just passively taking them in. Critical readers understand the facts, grasp a deeper understanding of the ideas that connect to the details, evaluate the idea, and form intelligent opinions.

Dauzat and Dauzat (1981) illustrate how reading comprehension can be stimulated by questioning. The type of question itself determines the type of comprehension it stimulates. Therefore, the teacher should be aware of the skills that re stimulated by a given type of question. Firstly, the answers to some questions at the Text-Explicit level may be found stated explicitly in the passage. These correspond to the literal level of comprehension, but some are more difficult than others because they require a paraphrase or restatement response instead of recall of bits of information. Secondly, question at Text-Implicit level require that the reader will generate answer when the information is implied in the material but not explicitly stated. These questions call for responses at the inferential comprehension level. Thirdly, questions at experience level require a mixture of understanding at text-

implicit and background experience levels for adequate responses. These questions stimulate comprehension at critical reading levels.

Harris and Sipay (1990, p. 232) define reading comprehension measurement as indirect approaches since the processes in the reader's mind are difficult to observe from outside. Procedures for testing reading comprehension may be classified as product or process measures. Product measure tests comprehension after the child has read. Process measure attempts to sample comprehension as it is taking place.

3. WebQuest Learning Approach

WebQuest Learning Approach is a constructivist inquiry-based learning approach in which the information used by learners is from the Internet (Dodge, 1995, 2001). The purpose of this approach is to facilitate teachers to integrate technology into the classroom since new technologies are great with ideas and concepts in exciting, enjoyable, and efficient ways in order to provoke students to think critically about what they have learned (Alessi & Trollip, 2001; Bitter & Legacy, 2007; Dodge, 1995, 2001; Geisert & Futrell, 1999; Jonassen, 2000; Vidoni & Maddux, 2002).

Literally, WebQuest Learning Approach is constructed about the scenario of interest to students who afterward work in small groups to examine the problems, propose hypotheses, search for information with Internet links, analyze and synthesize the information using guided questions, and present solutions to the problems (Dodge, 1995, 2001). Moreover, learners work on their tasks by accessing authentic learning information available on the Internet (Aydin, 2015, p. 2; Dodge, 1995, 2001; Vidoni & Maddux, 2002). This means that learners acquire new knowledge not only using the inquiry skills, but they also have to synthesize that knowledge by using high order thinking as well.

In short, WebQuest Learning Approach is a constructivist inquiry-based learning approach, which is developed with a clear purpose in facilitating teachers to integrate teaching into teaching and learning environment in order to optimize students' high order thinking skills. The Internet-based instruction, learning skepticism, authentic information, and interactive learning are the significance points of WebQuest Learning Approach.

3.1. Theoretical framework of WebQuest Learning Approach

According to [Dodge \(1995\)](#), the underpinned theories of WebQuest Learning Approach are: constructivist learning theory, collaborative learning and inquiry-based learning. Each theory has its own significant role, which will be describe in the following part.

3.1.1. Constructivism

Learning itself cannot be comprehended through a single theoretical view. The notions on human cognition architecture are multidimensional, that is, it must include multiple theoretical perspectives to define the complexity of human learning ([Alexander, Schallert, & Reynolds, 2009](#)).

Views of learning are various. For instance, learning is viewed as activity among activity theorists, because activity and consciousness are the central mechanisms of learning ([Leont'ev, 1974](#)); learning is social negotiation, because human naturally tend to share their meaning and co-construct reality in communities of practice or community of learners ([Lave & Wenger, 1991](#); [Scardamalia, 2002](#)); learning is conceptual change, because human naturally organize and reorganize their existing knowledge in light of new experiences ([Limón & Mason, 2002](#); [Vosniadou, Carretero, & Schnotz, 1999](#)); learning is the construction of knowledge, because the way in which human construct knowledge affects the way they understand; learning is the combination of processing, storage and retrieval of information, because information is taken through sensory memory, hold it briefly in short-term memory until it can be stored in long-term memory ([Kirschner, Sweller, & Clark, 2006](#)); or learning is a relatively permanent change in behavior or behavioral dispositions, which means when human exposed to certain situation, they respond in predictable ways if they are reinforced for their performance ([Thorndike, 1927](#); [Watson, 1928](#)). However, no matter definitions given on learning, the knowledge and complex process occur individually inside human brain.

Early approach in understanding learning is first demonstrated by Jean Piaget, who is considered as one of the first prominent constructivist. For Piaget, learning and growing of understanding and knowledge are processes of adjustment to environmental influences, which comprise from two basic processes called

assimilation and accommodation. These processes, on the other hand, do not relate with the stage of development of an individual (Pritchard, 2009). According to Piaget's definition, the knowledge bank of individual is increased to include new information through assimilation process whereby new knowledge is incorporated into existing mental structures, while accommodation is the process whereby mental structures have to be modified in order to cope with the new experience which has contradicted the existing model. The state of having no any conflict between new and existing knowledge is called equilibration. Metaphorically, learners already have their own previous knowledge about things around them. When new unfamiliar information is added on to their existing knowledge, they arrive at the stage of disequilibrium. Therefore, the brain uses accommodation process in order to adjust new information to match with the existing information. Assimilation occurs when both new information incorporates with the existing knowledge. Hence, new knowledge has been added. After all, the brain arrives in the state of having not conflict between new and existing knowledge, which is called equilibration.

3.1.2. Scaffolding

Vygotsky, Russian psychologist, views knowledge as the result from both constructing knowledge within an individual and social interaction (Feldman & Garrison, 1993). He places more emphasis on the social environment as a facilitator of development and learning. According to Vygotsky, the interaction of interpersonal, cultural and individual factors plays key prominent role to human development (Tudge & Scrimsher, 2003). Therefore, learning and development cannot be separated for their context. The ways students interact with their world, such as persons, objects and institutions, transform their thinking, which help students to change their meaning of concepts (Gredler, 2009). Of these three influences, the one that has received the most attention is the interpersonal. Vygotsky considers the social environment critical for learning and think that social interaction transforms learning experiences. Generally, social activity is a phenomenon that helps explain changes in consciousness and established a psychological theory that unifies behavior and mind (Kozulin, 1986; Wertsch, 1984).

Vygotsky's key concept in his social constructivist theory is the zone of proximal development (ZPD), which can be defined as the distance between the actual developmental level as determined by independent problem solving under guidance or in collaboration with more capable peer (Vygotsky, 1978, p. 86). In other words, the ZPD represents the amount of learning possible by students give in the proper instructional conditions (Puntambekar & Hubscher, 2005). It is largely a test of a student's development readiness or intellectual level in a specific domain, and it shows how learning and development are related, and can be viewed as an alternative to the conception of intelligence. In the ZPD, a teacher and students work together on a task that the students could not perform independently or difficult to master.

Helping students to acquire new knowledge through the social environment can be accomplished in various ways; a common application involves the concept of instructional scaffolding. Scaffolding refers to the process of controlling task elements that are beyond the learner's capabilities so that they can focus on and master those features of the task that they can grasp quickly (Puntambekar & Hubscher, 2005). Comparing to scaffolding employed in construction, instructional scaffolding has five major functions: (1) provide support, (2) function as tool, (3) extend the range of the students, (4) permit the attainment of task, (5) use selectively only as needed.

In learning situation, a teacher initially might do most the work, after which the teacher and the students share responsibility. As students become more competent, the teacher gradually withdraws the scaffolding so students can perform independently (Campion, Brown, Ferrara, & Bryant, 1984). The key is to ensure that the scaffolding keeps learners within the bounds of ZPD. Furthermore, scaffolding should be given at the appropriate time and appropriate level of sophistication to meet the needs of the individual (Pritchard, 2009, p. 25).

According to Moss (2005), teacher can offer support, or scaffolding, to help students learn to use higher-order thinking strategies. The concept of scaffolding is derived from the developmental theories. Scaffolding instruction helps children bridge the gap between what they know and what they need to know to become independent learners. To help students learn the reading-thinking strategies used by proficient

readers to generate meaning, teachers may model a particular strategy. Another type of scaffolding involves thinking aloud.

3.1.3. Collaborative learning

Collaborative is define as to work jointly with other or together especially in an intellectual endeavor (Olivares, 2007). Indeed, the collaborative learning literature suggest that collaborative learning is first and foremost, a social-intellectual exercise concerned with the creation of new knowledge, whereby a problem or task is posed, and a solution sought (Bruffee, 1984). Collaborative learning is grounded in social constructivism and is concerned with creating new knowledge; toward this end, the teacher serves as a facilitator or guide (Dewey, 1910, 1938) to the social process of discovery.

Accordingly, collaborative learning plays important role in enhancing students' independence, and atmosphere of dissent, a lack of group structure, and a free exchange of ideas during learning. In collaborative learning, the group will seek to answer a question, or generate solutions to a problem independently; however, there is no concurrent goal that each and every member of the group will learn from the experience. In addition, collaborative learning can be considered an outward-looking, unstructured group process where the primary goal of the group is to generate, through creative interaction and knowledge construction (Brody, 1995).

Olivares (2007) provides three key point of collaborative learning:

1. Individual student success in learning is not a central concern and distinguishing characteristic of collaborative learning; rather, the concern is that joint group activities result in knowledge acquisition or problem solving that is superior to individual efforts.
2. Collaborative learning is not a structured group process; it is concerned with cultivating independence, and independence of thought through the collaborative process.
3. Small group and interpersonal skills are not taught as part of the collaborative process because this may interfere with the free flow of information and ideas.

3.1.4. Inquiry learning approach

Inquiry-based learning is an approach to teaching and learning that place students' questions, ideas and observation at the center of the learning experience. Teachers play an active role through the process by establishing a culture where ideas are respectfully challenged, tested, redefined and viewed as improvable, moving students from a position of wondering to a position to enacted understanding and further questioning (Scardamalia, 2002). Underlying this approach is the idea that both educators and student share responsibility for learning.

For students, the process often involves open-ended investigations into a question or a problem, requiring them to engage in evidence-based reasoning and creative problem-solving, as well as problem-finding. For teacher, on the other hand, the process is about being responsive to the student's learning needs, and most importantly, knowing when and how to introduce students to ideas that will move them forward in their inquiry. Together, teacher and students learn from each other the learning experience, accept mutual responsibility for planning, assessment for learning and the advancement of individual as well as class-wide understanding of personally meaningful content and idea (Fielding, 2012).

Loucks-Horsley and Olson (2000) provide five essential features of enquiry-based learning namely (1) students are engaged by scientifically oriented questions, (2) students give priority to evidence in responding to questions, (3) students formulate explanations from evidence. (4) students connect explanations to scientific knowledge, (5) students communicate and justify explanation.

3.2. Principles of WebQuest Learning Approach

From the above discussion on the theoretical frameworks, the principles of WebQuest Learning Approach can be synthesized into four aspects as follows:

1. Students' cognitive conflict functions as learning stimuli for searching information in order to respond to their skepticism, and re-conceptualizing their previous understanding.

2. Learning is effective when the students interact with cooperative learning activities in order to co-construct knowledge and receive scaffolding from peers or the teacher.

3. Learning processes are the string of acquiring, comprehending, and evaluating selected inputs through six attributes namely: introduction, task, process, resources, evaluation, and conclusion.

4. Meaningful learning occurs when authentic learning materials in information and communications technology form are purposively selected and well-sorted, and learning resources are well-organized in design.

3.3. WebQuest Learning Approach and critical reading

In WebQuest Learning Approach, learning starts with the stimulation from teacher not only to introduce what students going to learning, but also to build cognitive conflict among students as well. This activity makes students want to know more about the learning topic, thus they need to find out more through the learning task that the teacher has assigned them. During investigation for further information, reading skills and critical thinking skills is the most important skills needed. For example, students start their tasks by applying quick reviewing of the assigned sources from teacher to check whether the given sources are reliable or not, which on is fact or opinion given by author. After reviewing for the reliable source, students apply their high order of thinking such as analyzing what type of language used and the intention of an author, inferring what the text is about, and evaluating what they have read before reaching concision. Therefore, students will do lot of reading and use critical thinking skills in order to achieve their task. In short, the premise on implication of WebQuest Learning Approach is significantly improved critical reading abilities of the student as well.

4. Reflective Practice

4.1. Definition of Reflective Practice

The connotation of Reflective Practice is defined as a concept in which an individual can develop a greater level of self-awareness about the nature and impact

of one's performance (McGregor, 2011; Osterman & Kottkamp, 1993). This connotation is located on the fundamental concept of reflection (Dewey, 1910) and experiential-based (Kolb, 2014). For further details, the definition, theoretical framework, principle and relation between Reflective Practice and critical reading will be fully explained in the following parts.

Before moving to a definition of Reflective Practice, it is essential to take a closer look to the root and the relationship between reflection and Reflective Practice. Reflective Practice has its own root from the work of reflection by John Dewey (1910). To Dewey, reflection comes along with self-observation, self-evaluation and critical analyzing of an individual's action for professional practice including training, learning, personal development. Moreover, reflection requires open-mindedness to new ideas and thoughts, wholeheartedness to seek out fresh approach with fully engage with the current task and responsibility to be aware of the consequence of own actions. Later, Rodgers (2002) elaborate the concepts of reflection as a systematic way of thinking and scientific inquiry for a meaning-making process that moves an individual from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas. Reflection occurs within the interaction with others, and requires attitudes that value the personal and intellectual growth of oneself and of others as well. Through this elaboration, reflection can be explained as an active process of witnessing one's own experience in order to take a closer look for better improvement.

The concept of reflection has been lately applied in professional development, which is called Reflective Practice. Its definitions are also various. For instance, in nursing, Schön (1987) defines Reflective Practice as a thoughtful consideration of one's own experiences in applying knowledge to practice while being coached by professional. In field of business administration, Sambrook and Stewart (2008) define Reflective Practice as a concept of management education and development that has a strong emphasis on professional managers applying formally learnt knowledge to solve contemporary organizational problems. In action research, Hopkins and Antes (1990) define Reflective Practice as a concept of curriculum development consisting to continuous feedback that target specific problems in a particular school setting. For

professional growth, [Osterman and Kottkamp \(1993\)](#) view Reflective Practice as a concept to develop a great level of self-awareness about the nature and impact of one's performance and awareness that creates opportunities for professional development. In the same essence [Loughran \(2002\)](#) defines Reflective Practice as concept of reframing the problem for different views and analyzing the consequence and performance for better knowledge from experience. To develop higher level cognition, Reflective Practice refers to a concept of using reflection as essential rational, problem-solving as means of learning rooted in cognitive psychology, with its emphasis on critical thinking ([Leigh, 2016](#)).

So obvious and indeed, Reflective Practice helps individual to develop a greater level of self-awareness of one's own performance and to develop one's skills into the next level ([McGregor, 2011](#); [Osterman & Kottkamp, 1993](#)). Furthermore, it enriches learners' personal reflection on their work and provides learners with suggestions from peers on how to refined their related skills ([Syrjala, 1996](#)). Obviously, the importance of Reflective Practice across many professions such as science, nursing, medicine, teaching and others require individuals to develop their understanding about the way they conduct their works to be more skillful ([Loughran, 2002](#)).

In short, the underpinned concept of Reflective Practice is the concept of reflection which involves with self-observation, self-evaluation and critical analyzing. These underpinned concepts lead to various definitions given upon Reflective Practice, yet the key concepts remain the same. The definition, thus, can be shortly explained as critical awareness of learner's previous performance and seeking for better performance through problem solving and scaffolding by peers or professional.

[Zwozdiak-Myers \(2012\)](#) introduces the framework of reflective practice, which defined and capture this elusive phenomenon within dimensions of reflective practice. The reflective attitudes of open-mindedness, responsibility, and wholeheartedness, characteristics and key attributes of extended professional, and qualities associated with the teacher as a profession signpost how reflective practice as a disposition to enquiry has been interpreted within this construct. It has also invited you to explore

how your emotional intelligence may influence and be reflected in your approach to teaching and learning.

Reflection is first viewed as a complex thinking process focusing on an active, persistence and careful consideration (Dewey, 1910). The concept of reflection has been developed into a broader perspective, especially for personal improvement and professional development, which can be seen clearly in the field of nursing the work of Schon (1983), in education (Osterman & Kottkamp, 1993), in teaching EFL (Afshar & Farahani, 2015; Soodmand Afshar & Rahimi, 2016), in athletes' training (Richards, Mascarenhas, & Collins, 2009) and more. The developments timeline of the Reflective Practice lay upon theoretical perspective of reflection (Dewey, 1910), reflection and professional development (Schön, 1987), and experiential learning (Kolb, 2014).

Firstly, one of the prominent underpinned theory of Reflective Practice is the reflection, which is a consciously rational search and evaluation for solution to problems in order to enhance self and professional (Dewey, 1910; Minnis, 1999). Further support, Zeichner and Tabachnick (2001) emphasize that reflection helps student to become more aware of themselves and their environment in way that change their perception, and link the act of reflecting with critical thinking and professionalism. In the theory of reflection and professional development, a technical rationality is the root of Reflective Practice. It has simplistic view of applying knowledge into practice. It is simply a matter of applying a technical knowledge based in a direct way (Schon, 1983; Schön, 1987).

The reflection, moreover, shows how the processes involved in drawing on a professional knowledge based in practice are far more complex than its basic notion. Schon (1983) coins two forms of reflections, reflection-in-action and reflection-on-action, into a field of professional development including teacher education and research. Reflection-on-action is viewed as learners' thoughtful consideration and retrospective analysis of their performance in order to gain knowledge from experience. Reflection-in-action, on the other hand, comprises reframing the problem and improvising on the spot so that experience will differently. Thus, learning is the

result of awareness to what is doing and what has done in order to improve (Schon, 1983; Schön, 1987).

The second underpinned theory of Reflective Practice is experiential learning. According to experiential learning theorists, Reflective Practice is located within the old tradition of experiential learning and also the more recently defined perspective of situated cognition (Osterman & Kottkamp, 1993). This means learning is most effective and most likely to lead to behavioral change, when it begins with experience and specifically problematic experience. Learning, furthermore, is most effective when learners become personally engaged in the learning process, and engagement is most likely to take place when there is a need to learn. In professional programs, for example, fruitful learning does not often start until the person is on the job. Situated cognition focuses on both the process and the context of learning.

In a view popularized by the recent attention to problem-based learning, situated cognition proponent maintains that learning is best accomplished through an active, social, and authentic learning process (Bridges, 1992). Some argue that learning is most effective when the learner is actively involved in the learning process, when it takes place as a collaborative rather than an isolated activity, and when it takes place in a context relevant to the learner (Brown, Collins, & Duguid, 1989; Prestine & LeGrand, 1991).

Experiential learning theory maintains further that learning is a dialectic and cyclical process consisting of four stages: experience, observation and reflection, abstract reconceptualization, and experimentation (Kolb, 2014). While experience is the basis for learning, learning cannot take place without reflection. Conversely, while reflection is essential to the process, reflection must be integrally linked with action. Reflective Practice, then, integrating theory and practice, thought and action, is as Schon (1983) described. Figure 6 shows the experiential learning cycle including concrete experience, observation and analysis, abstract reconceptualization, and active experimentation, and active experimentation.

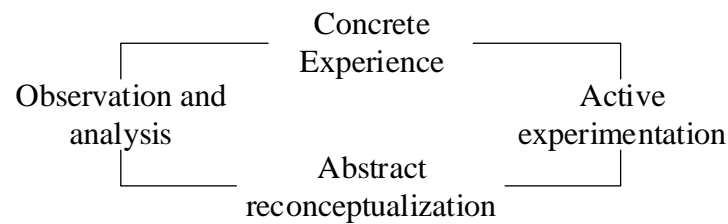


Figure 6 Experiential learning cycle

The first stage of learning process, in [Figure 6](#), is to identify problematic situation by focusing on problems of practice since the intent of Reflective Practice is to improve the quality of professional performance.

In the second stage of the process, the learner assumes the role of a researcher and begins to gather information. Because Reflective Practice focus on personal behavior within the professional context, learners begin to gather and analyze rich information about the experience and particularly about their own behavior. Then, they become the critic watching their own action on stage. They stand back from the experience itself, assume a more detached stance, and step outside the action to observe it critically and to describe it fully before moving the following stage.

In the third stage, this point in the cycle involves an active search for new ideas and new strategies. Learners are highly motivated to find new information, theories, techniques, or processes to address the problem. Thus, the objective now is to develop alternative hypothesis that may address the problem. To do that, learners gather information that will help them to develop a more effective conceptual and strategic approach.

The final stage in experiential learning is testing learners' conceptualized behavior and assumptions. In the reconceptualization phase, learners develop new action theories and framed them as hypotheses. With regard to collaborative decision making, learners begin to test this assumption. Finally, the stage completes one cycle and begins another.

To sum up, theoretical perspective of reflection, and experiential learning act as the key foundation of Reflective Practice. The reflection theory helps learners to be aware of what they are learning and have critical thinking in making decision, while

reflection-in-action and reflection-on-action are more likely in observing learners' own learning performance within and during practicing by criticizing to their own flaw, and seeking for new approach for better improvement. The second underpinned theory is experiential learning which is the basis of Reflective Practice since reflection on problematic experience acts as tool to effective learning and behavioral change. The great distinction of Reflective Practice is experience and reflection which happen during the four stages: experience, observation and reflection, reconceptualization, and experimentation. This distinction differentiates Reflective Practice from metacognition in which focus mainly on cognitive processing.

4.3. Principles of Reflective Practice

From the above review of Reflective Practice, the principles can be synthesized into four aspects as follows:

1. Students learn effectively when they are aware of their current tasks and learning environment that they are participating in.
2. Learning experiences will be developed professionally when the students revisit, analyze and criticize what they have learned.
3. Learning is enhanced when the students interact with their peers for exchanging criticism of their previous experiences.
4. Students develop their high order thinking skills through their reflection in what they are doing and reflection on what they have done for their learning experiences.

4.4. Reflective Practice and critical reading

Reflective Practice is widely used after the work of (Schon, 1983). The implications are mainly seen in professional development in order to obtain more effective achievement such as: using Reflective Practice and reflective writing for professional development in higher education (Leigh, 2016), developing Reflective Practice model based on reflective experience for engineering leadership (Finlayson, 2016), using Reflective Practice to explore on the relationship between the beliefs and classroom practice of English as a second language teachers in university level

(Farrell & Mom, 2015), and more. To obtain more effective result in assigned task, learner should conduct reflection-in-action that enables learner reshaping thinking while working spontaneously, and reflection-on-action to thinking back on what have been done in order to discover on how knowing-in-action to contribute to unexpected outcome.

In conclusion, when the premise of using reflection in Reflective Practice approach about learning and improving professional skills is true, it must be applicable for implementing reflective approach in developing reading skills as well. Therefore, learners should keep on reflecting on both during and after their reading task.

5. Related research

Afshar and Farahani (2015) conducted a study to investigate the relationship between reflective teaching and reflective thinking of Iranian EFL teachers regarding gender and teaching experience. The English Language Teaching Reflection Inventory and Teachers' reflective Thinking Questionnaire were used as survey for data collection. The results of Pearson product moment correlation indicate that there is a significant positive correlation between reflective teaching and reflective thinking of Iranian EFL teachers. The results of Independent Samples t-tests reveal significant differences between male and female Iranian EFL teachers in terms of both reflective teaching and reflective thinking. The results of one-way ANOVA and Tukey post-hoc analysis respectively indicate that teaching experience significantly differentiate Iranian EFL teacher concerning reflective teaching. This means high-experienced teachers significantly outperform mid-experienced teachers who, in turn, outperform their low-experienced counterparts in this regard.

Alshumaimeri and Almasri (2012) conducted a study on the effect of using WebQuest on reading comprehension performance of Saudi EFL students. There were two research questions: 1) Will there be a significant improvement in the students' comprehension performance in the post reading test? 2) are there any significant difference between control and experimental groups in the post test in relation to the use of WebQuest? Their study design is quasi-experiment and pretest and posttest non-equivalent control group were used for data collection. The result of both groups

showed that there was significant improvement in students' reading comprehension in the post reading. For the second question, the results showed that there were significant differences between the experiment group and control group in the posttest controlling the pretest scores ($p < .01$). The strongly significant differences occurring in the students' posttest comprehension performance support the claim that using WebQuest can improve student's reading comprehension performance.

Luu Trong (2011) conducted an action research to investigate if the implementation of WebQuest helps enhance reading skills and to explore the students' attitude towards WebQuest-based teaching reading. The pretest, posttest and questionnaire were used to collect quantitative data among 44 students. Students involved in the study right before and after the course in order to measure the improvement in their reading skill, and the questionnaire was designed online after the course to investigate the students' attitudes toward the course. Through the action research, the findings showed that students who received the WebQuest-based program made considerable improvement in their reading. The findings were also enhanced by the positive feedback of the students towards the use of WebQuest through the online survey carried out after the course.

Yassaei (2012) conducted a qualitative research to investigate MATESOL program graduates' perceptions and engagement with Reflective Practice with four American University of Sharjah in United Arab Emirates. Semi-structured interviews were used for the data collection. The findings of his research find out that the participants continually think about their classroom actions and try to improve them in order to become better teachers, although they do not necessarily commit their reflections to paper. In addition, they discuss different issues related to teaching and learning with their colleagues, and try to come up with well-informed decisions. More importantly, by involving their students in decision-making and asking for their feedback.

Robert Zheng, Stucky, McAlack, Menchana, and Stoddart (2004) conducted a study on WebQuest learning as perceived by 207 higher-education learners. His study encompassed of four questions: 1) what are the factors critical to WebQuest learning as perceived by learners? 2) Are there any differences between theoretical constructs

and factors identified in this study? 3) Are there any difference between males and females in their perception of WebQuest learning? and 4) Is there a relationship between experience and perceptions in terms of WebQuest learning? The instrument consisted of two parts: demographic information and questionnaire. The results are focused on four research question with an emphasis on their implications in teaching and learning. For the first research question, the critical factor to WebQuest learning are: constructivist problem solving, social interaction and scaffolding learning. For the second question, several conceptual changes between theoretical constructs and new constructs. Firstly, the theoretical construct of called constructivist problem solving as perceived by students is a broad process that includes critical thinking, knowledge application, association and construction. Secondly, there was a difference between the construct of social interaction and its counterpart, social skills. Finally, the construct of scaffolded learning reflected several conceptual changes. For the third question, the study revealed an overall difference between males and females in perceptions. For the fourth research question, no significant difference was found among experience groups in terms of learner perception.

6. Theoretical framework of this research

The presented in the above reviews, analyses, and synthesizes of the theoretical framework of independent variable and dependent variable have shown that WebQuest Learning Approach and Reflective Practice have great possibility in enhancing critical reading.

[Figure 7](#) illustrates the holistic view of the conceptual framework used in this study.

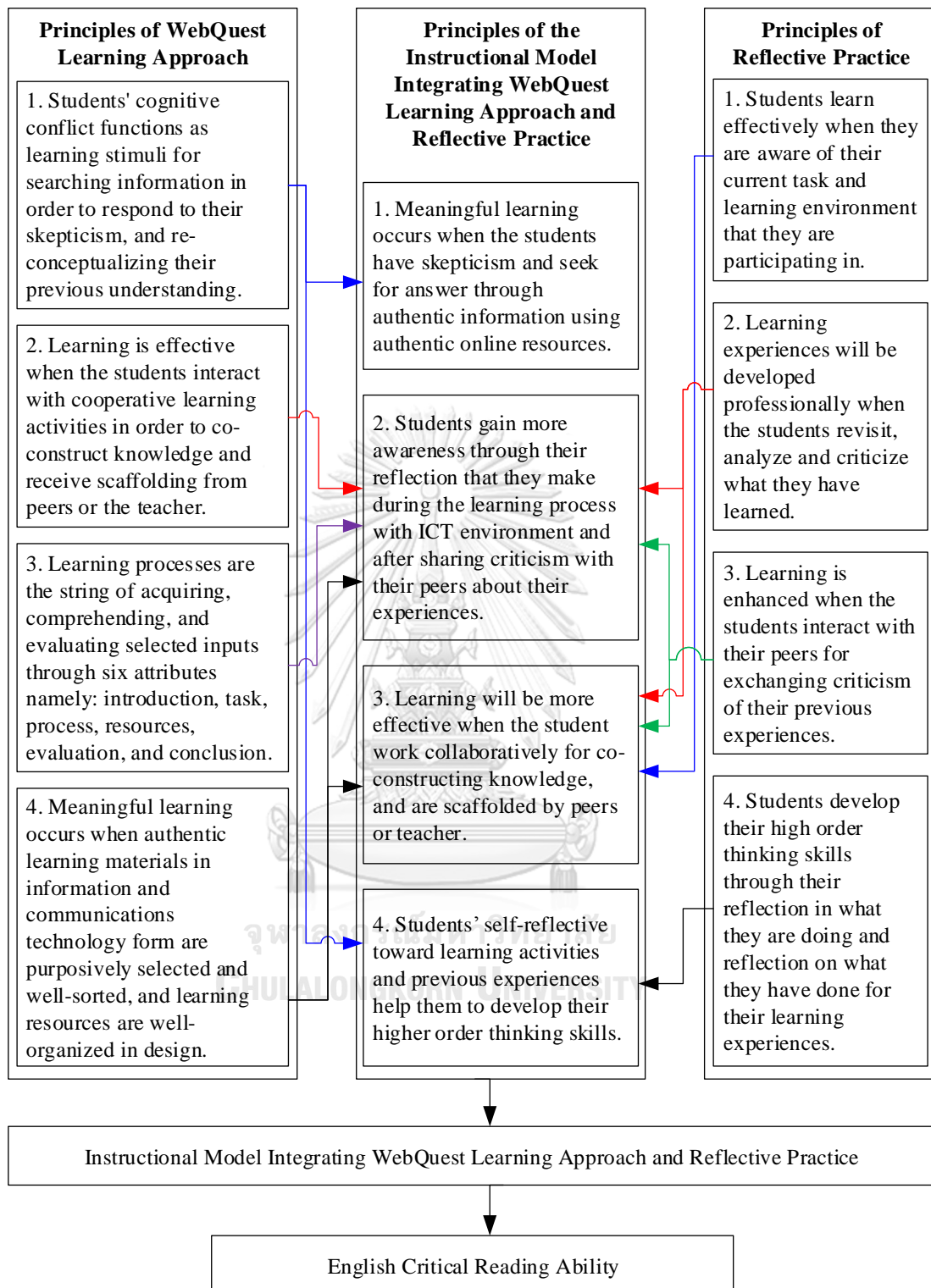


Figure 7 Holistic view of the conceptual framework used in this study

CHAPTER 3

RESEARCH METHODOLOGY

The research entitled “Development of an Instructional Model Integrating WebQuest Learning Approach and Reflective Practice to Enhance English Critical Reading Ability of Undergraduate Students in Cambodia” followed the research and development method. There were four phases of the research and development as follows:

Phase 1: (Research 1) Studying of the significance of the problem and learning approaches

- 1.1. Studying and analyzing the significance of the problems related to English critical reading in Cambodia context
- 1.2. Studying, analyzing and synthesizing related studies of English critical reading ability
- 1.3. Studying, analyzing and synthesizing learning approaches
 - 1.3.1. Learning principles of WebQuest Learning Approach
 - 1.3.2. Learning principles of Reflective Practice

Phase 2: (Development 1) Developing of the instructional model integrating WebQuest Learning Approach and Reflective Practice

- 2.1. Developing an instructional model integrating WebQuest Learning Approach and Reflective Practice
 - 2.1.1. Learning principles of the instructional model
 - 2.1.2. Learning objective of the instructional model
 - 2.1.3. Learning steps of the instructional model
 - 2.1.4. Pedagogical guideline of the instructional model
 - 2.1.5. Assessment and evaluation of the instructional model
 - 2.1.6. Lesson plans
 - 2.1.7. Instructional manual of the instructional model
- 2.2. Validating the instructional model
 - 2.2.1. Validating the instructional model by experts
 - 2.2.2. Revising and improving the instructional model

2.2.3. Validating the instructional model by pilot

2.2.4. Revising and improving the instructional model

Phase 3: (Research 2) Studying the effectiveness of the instructional model
integrating WebQuest Learning Approach and Reflective Practice

3.1. Preparing for the implementation of the newly developed instructional
model

3.1.1. Specifying research design

3.1.2. Specifying population and samples

3.2. Developing research instruments

3.2.1. English critical reading ability test

3.2.2. Marking rubric score

3.2.3. Reflective journal

3.3. Validating the research instruments

3.3.1. Validating by experts

3.3.2. Validating by try-out

3.3.3. Improving the English critical reading ability test

3.4. Implementing the instructional model in authentic classroom

3.5. Analyzing data

Phase 4: (Development 2) Revising and developing the instructional model

Figure 8 showed the research process of developing the instructional model
integrating WebQuest Learning Approach and Reflective Practice

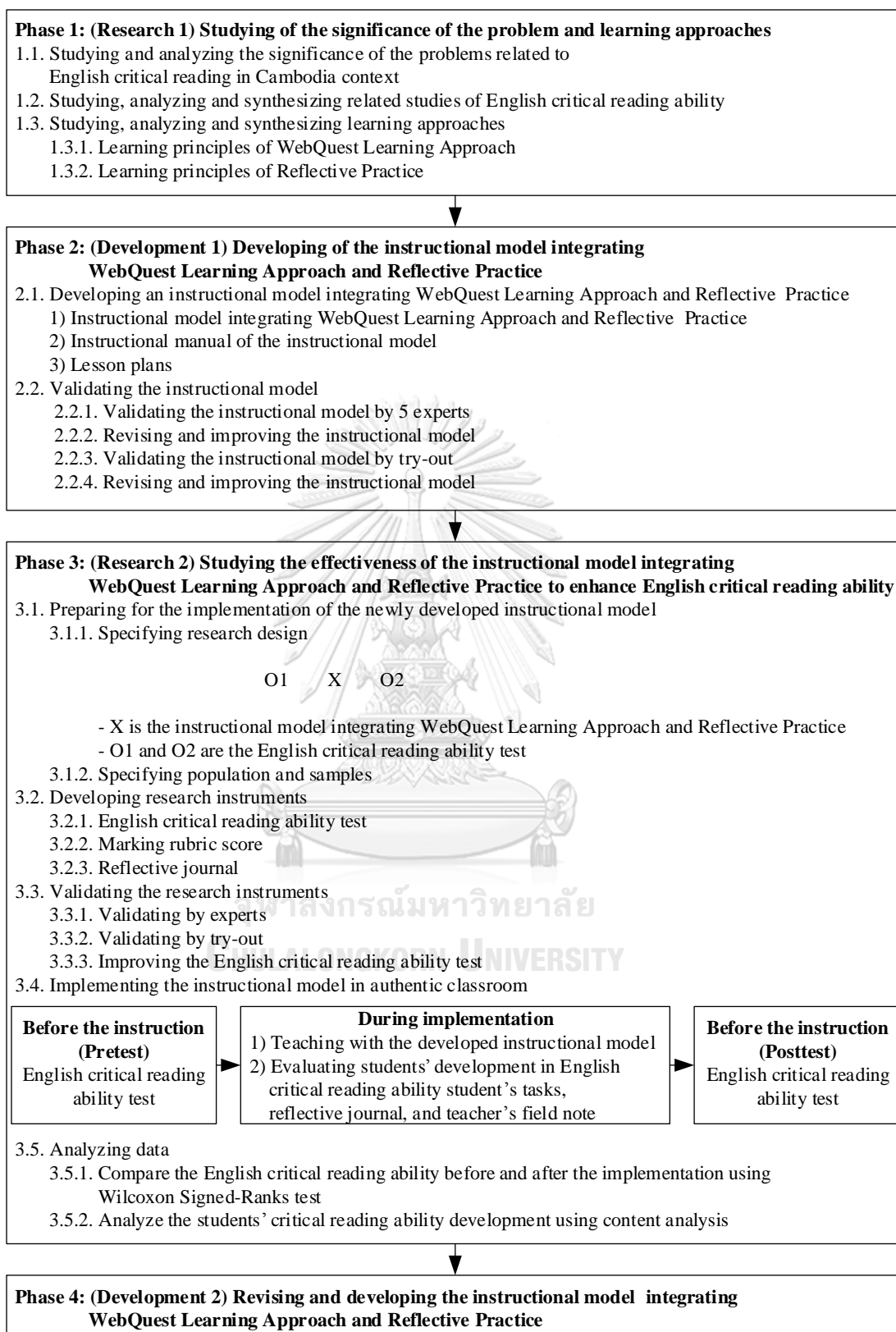


Figure 8 Research process of developing the instructional model integrating WebQuest Learning Approach and Reflective Practice

Phase 1: (Research1) Studying of the significance of the problem and learning approaches

In the first phase of this study, the researcher studies the significance of the problems of the English critical reading at the university level in the Cambodia context. The processes of this phase were as follows:

1.1. Studying and analyzing the significance of the problems related to English critical reading in Cambodia context

Firstly, the researcher studied documents from the Research Policy Master Plan of the Ministry of Education, Youth and Sports in Cambodia about a major challenge for the students at tertiary level were the mismatch between the need of the labor (MoEYS, 2013; Tan, 2007, 2008). The results of the document studies showed that Cambodian undergraduate students were lack in term of English language skills, critical thinking ability and the current products on the labor market.

Secondly, researcher studied and analyzed related documents and research articles for the best solution, which enhance undergraduate students' critical thinking abilities to best fit with current labor market. In respond to ability development, enhancing the students' English critical reading ability was the true solution since the English critical reading ability help to improve not only the students' high order thinking skill and English language skills, but also provide students successful academic life and life-long learner (Borst, 2017; R. Pirozzi, 2003; R. C. Pirozzi et al., 2007; Scanlon, 2017).

Thirdly, researcher also studied the related documents, textbooks and research journals to study the contemporary teaching and learning of English critical reading in other countries which shared the same characteristic comparing to Cambodia contexts, namely English as foreign language countries, ranking as developing country, and focusing on the undergraduate level (García, 2008; Simmons, 2007; Sultan, Rofiuddin, Nurhadi, & Priyatni, 2017; A. R. Sultan & Nurhadi, 2017).

The results from studying and analyzing the significance of the problems related to English critical reading in Cambodia context showed that 1) the ability to

draw inferences from reading text, 2) the ability to formulate logical judgment or integration of comparison and contrast features of information, and 3) the ability to conclude using the logical reasoning from text of majority undergraduate students were limited.

1.2. Studying, analyzing and synthesizing related studies of English critical reading ability

In this step, research studied, analyzed and synthesized related literatures of the English critical reading ability including: definition of critical reading ability, importance of English critical reading ability, approaches in enhancing English critical reading ability and assessment and evaluation of the English critical reading ability.

1.2.1. Definition of English critical reading ability

According to the related literatures, the English Critical reading ability referred to the proficiency in using English language knowledge and word recognition to decode meaning from text, and high order thinking to question, to analyze and to synthesize of what is read. The English Critical reading ability included making inference of reading text, evaluating information, and drawing conclusion (W. R. Adams & Patterson, 2005; R. C. Pirozzi et al., 2007; Shor, 1999; C. Wallace, 1995, 2003).

1.2.2. The importance of English critical reading ability

The researcher studied the importance of English critical reading ability from various sources, namely documents and research articles. As a result, English critical thinking skills are categorized as prominent elements to prepare students for the future. Generally, the English critical reading ability is important by itself, and it also shares an inseparable relationship among each element as well (Borst, 2017; Conley & Wise, 2011; Gee, 2015; R. Pirozzi, 2003; R. C. Pirozzi et al., 2007). For instance, English critical reading ability is viewed as individuals' mean to ensure academic success for university, and guarantee for graduate employability (Gee, 2015). At the same time, having a great proficiency in English language will provide more options to life. For example, great variety of text books, research articles and other learning

materials are published using English language as means in delivering new knowledge.

1.2.3. Approaches in developing English critical reading ability

Researcher reviewed related research on approaches on developing the English critical reading ability. Researcher found various approaches had been conducted in the field of critical reading (Albeckay, 2014; N. L. Anderson & Kaye, 2017; Balfaqeeh & Hassan, 2017; Basaraba, Yovanoff, Alonzo, & Tindal, 2013; Benedict, 2013; Borst, 2017). Researcher also found two learning approaches which played important roles in enhancing high order thinking skills and reflection, WebQuest Learning Approach (Ahmed, 2016; Aydin, 2016; ÇAlgin & KoÇ, 2017; Dodge, 1995) and Reflective Practice (Finlayson, 2015; Nam, 2017; Ossa Parra, Gutiérrez, & Aldana, 2015; Osterman & Kottkamp, 1993). These two approaches provided the best fit for the above-mentioned problems, the English critical reading ability.

1.2.4. Assessment and evaluation of English critical reading ability

Researcher studied the assessment and evaluation of English critical reading ability from textbooks and research articles (W. Adams & Patterson, 2007; W. R. Adams & Patterson, 2005; Boyan, 1972; Gray & Rogers, 1956; R. Pirozzi, 2003; R. C. Pirozzi et al., 2007; Schumm & Post, 1997; Triggs, 1959; C. Wallace, 1995). The results of the assessment and evaluation of English critical reading ability can be summarized according to the three components as follows:

1. Making inferences of reading text, reader should be able to read between the lines using the reader's background knowledge in order to understand what is not directly stated in a text. Reader has to either make an educated guess about the unknown word by using in-text hints; or construct meaning by integrating given hints in a text with personal background knowledge.

2. Evaluating information of reading text, reader should be able to make a logical judgment upon various aspects of information in a text. Reader has to either provide a specific explanation about purpose, tone, or point of view of an author; or

make comparison or examine various aspects of the text such as: sources of information, facts or opinions, author's bias, figurative language, or point of view.

3. Drawing conclusion from reading text, reader should be able to combine particular facts together, or to make decision toward the reading itself. Reader draws a conclusion by either creating a new logical statement based on individual pieces of information from the text; or deciding whether to accept or reject the text based upon the results of the reader's evaluation.

1.3. Studying, analyzing and synthesizing learning approaches

Researcher studied and analyzed the WebQuest Learning Approach and Reflective Practice, together with the grounded theories, from various sources, namely documents, textbooks, journal articles, and academic researches.

1.3.1. Learning principles of WebQuest Learning Approach

WebQuest Learning Approach is a constructivist inquiry-based learning approach, which is rooted from the work of [Dodge \(1995\)](#) in using online information as learning resources ([Dodge, 1995, 2001](#)). Based on constructivism, scaffolding, collaborative learning and inquiry learning, the purpose of the WebQuest Learning Approach is to facilitate teacher to integrate technology into classroom since new technologies are great with ideas and concepts in exciting, enjoyable, and efficient ways in order to provoke students to think critically about what they have learned ([Alessi & Trollip, 2001](#); [Bitter & Legacy, 2007](#); [Dodge, 1995](#); [Geisert & Futrell, 1999](#); [Greer, 2001](#); [Jonassen, 2000](#); [Vidoni & Maddux, 2002](#)). In addition, WebQuest Learning Approach is constructed about the scenario of interest to students who afterward work in small groups to examine the problems, propose hypotheses, search for information with Internet links, analyze and synthesize the information using guided questions, and present solution to the problems ([Dodge, 1995, 2001](#)). Moreover, learners work on their tasks by accessing authentic learning information available on the Internet ([Aydin, 2015](#); [Dodge, 1995, 2001](#); [Maddux & Cummings, 2007](#); [Vidoni & Maddux, 2002](#)). This means that learners acquire new knowledge not only using the inquiry skills, but they also have to synthesize that knowledge by using high order thinking as well.

The principles of WebQuest Learning Approach were summarized as follows:

1. Students' cognitive conflict functions as learning stimuli for searching information in order to respond to their skepticism, and re-conceptualizing their previous understanding.
2. Learning is effective when the students interact with cooperative learning activities in order to co-construct knowledge and receive scaffolding from peers or the teacher.
3. Learning processes are the string of acquiring, comprehending, and evaluating selected inputs through six attributes namely: introduction, task, process, resources, evaluation, and conclusion.
4. Meaningful learning occurs when authentic learning materials in information and communications technology form are purposively selected and well-sorted, and learning resources are well-organized in design.

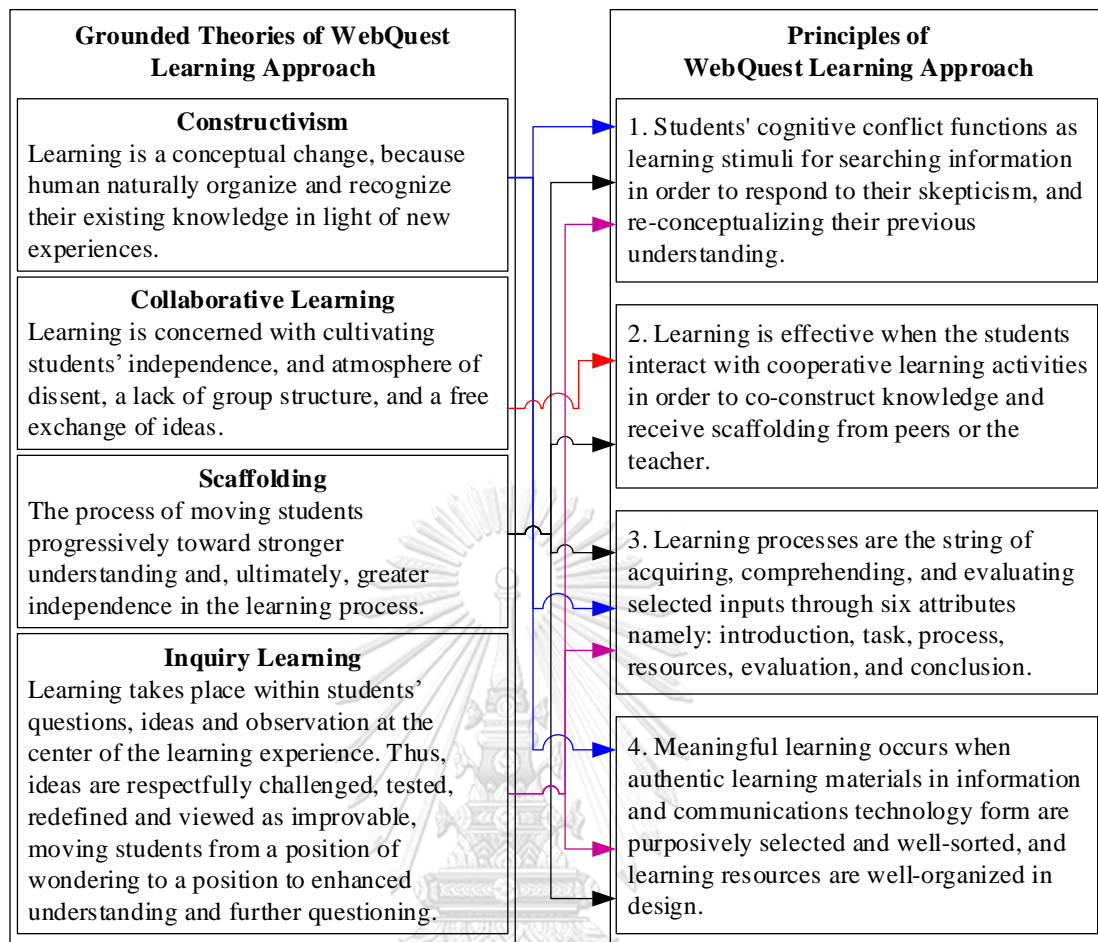


Figure 9 Principles of WebQuest Learning Approach

1.3.2. Learning principles of Reflective Practice

The concept of reflection has been lately applied in professional development, which is called Reflective Practice. Grounded from reflection theory and experiential learning, the definitions of Reflective Practice are also various. For instance, in nursing, [Schön \(1987\)](#) defines Reflective Practice as a thoughtful consideration of an individual's experiences in applying knowledge to practice while being coached by professional. In field of business administration, [Sambrook and Stewart \(2008\)](#) defined Reflective Practice as an approach of management education and development that has a strong emphasis on professional managers applying formally learnt knowledge to solve contemporary organizational problems. In action research, [Hopkins and Antes \(1990\)](#) define Reflective Practice as a concept of curriculum development consisting to continuous feedback that target specific problems in a particular school setting. For professional growth, [Osterman and Kottkamp \(1993\)](#)

view Reflective Practice as a concept to develop a great level of self-awareness about the nature and impact of one's performance and awareness that creates opportunities for professional development. In the same essence Loughran (2002) defines Reflective Practice as concept of reframing the problem for different views and analyzing the consequence and performance for better knowledge from experience. To develop higher level cognition, Reflective Practice refers to an approach of using reflection as essential rational, problem-solving as means of learning rooted in cognitive psychology, with its emphasis on critical thinking (Leigh, 2016).

The principles of Reflective Practice were summarized as follows:

1. Students learn effectively when they are aware of their current tasks and learning environment that they are participating in.
2. Learning experiences will be developed professionally when the students revisit, analyze and criticize what they have learned.
3. Learning is enhanced when the students interact with their peers for exchanging criticism of their previous experiences.
4. Students develop their high order thinking skills through their reflection in what they are doing and reflection on what they have done for their learning experiences.

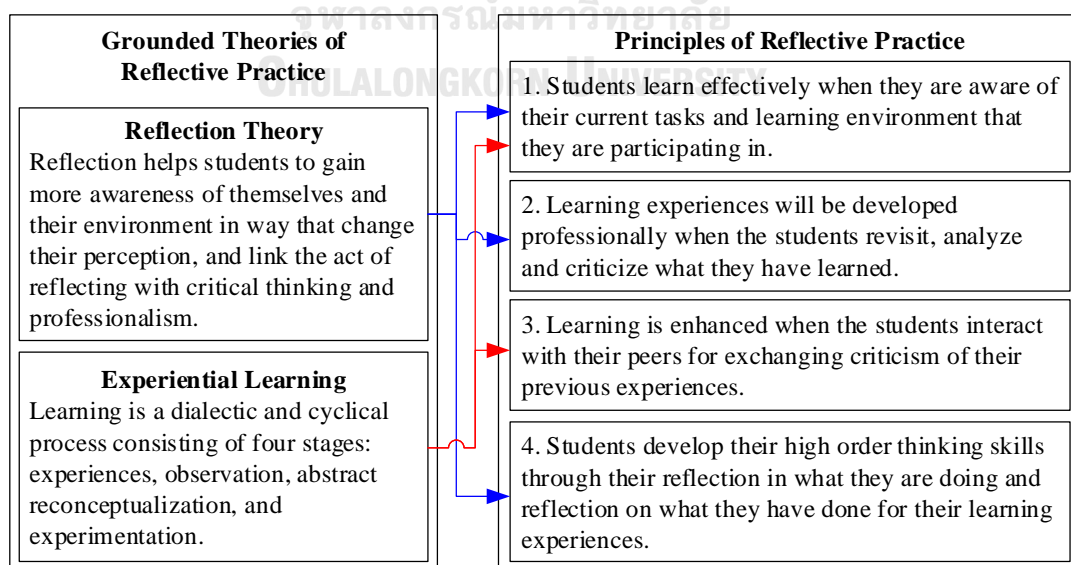


Figure 10 Principles of Reflective Practice

Phase 2: (Development 1) Developing of the instructional model integrating WebQuest Learning Approach and Reflective Practice

2.1. Developing the instructional model integrating WebQuest Learning Approach and Reflective Practice

Researcher developed an instructional model by integrating WebQuest Learning Approach and Reflective Practice in correspond with the problems in this research, the English critical reading ability of the undergraduate students in Cambodia. The processes of developing the instructional model integrating WebQuest Learning Approach and Reflective Practice were shown as follows:

2.1.1. Learning principles of the instructional model

Researcher analyzed the fine details of the principles of WebQuest Learning Approach and Reflective Practice. The details of the instructional model principles were shown as follows:

1. Meaningful learning occurs when the students have skepticism and seek for the answer through authentic information using authentic online resources.
2. Students gain more awareness through their reflection that they make during the learning process ICT environment and after sharing criticism with their peers about their experiences.
3. Learning will be more effective when the students work collaboratively for co-constructing knowledge, and are scaffolded by peers or teacher.
4. Students' self-reflection toward learning activities and previous experiences help them to develop their high-order thinking skills.

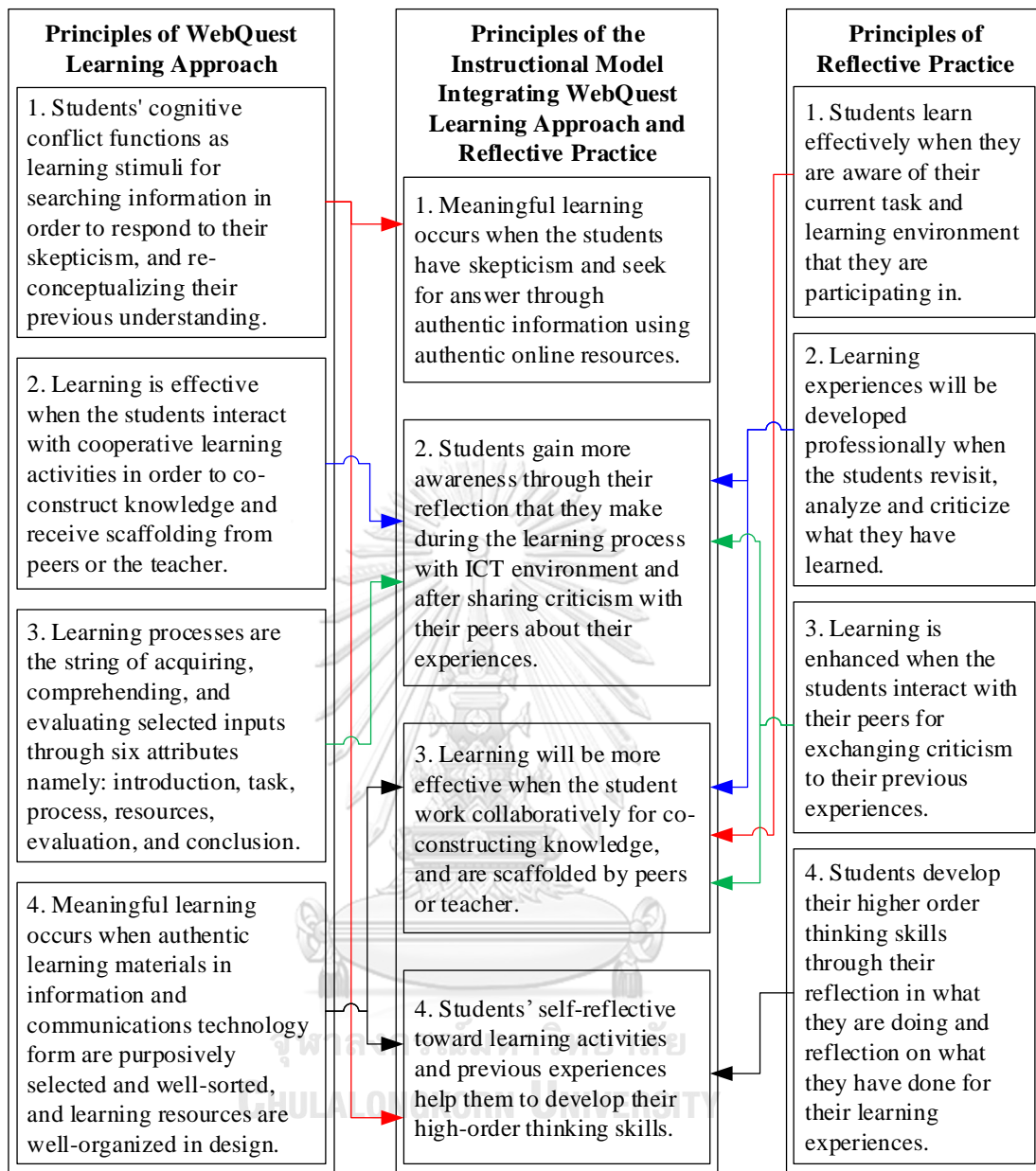


Figure 11 Principles of the instructional model integrating WebQuest Learning Approach and Reflective Practice

2.1.2. Learning objective of the instructional model

The researcher took the pedagogical principles of the instructional model to determine its learning objective of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of the undergraduate students. The objectives of the instructional model were to

enhance English critical reading ability of undergraduate students in Cambodia, who were studying English as a foreign language.

2.1.3. Pedagogical guideline of the instructional model

Researcher synthesized the learning principles of the instructional model integrating WebQuest Learning Approach and Reflective Practice for the details of the pedagogical guideline of the instructional model. The pedagogical guidelines of the instructional model were as follows:

1. Teacher activates students' prior knowledge as a skeptical mechanism in order to draw students' attention to seek for the answers.
2. Teacher uses students' skepticism as their assignment in searching, evaluating for valid information from multiple authentic sources both online and offline through well-sorted resources and well-organized design.
3. Students learn through multiple sources in term of various types and genres, all of which require the students to read and digest with high-order thinking.
4. Teacher provides opportunities for students to participate in a small group inquiring information, reflecting their learning activities, sharing learning experiences, and seeking for better improvement in the following assignment.
5. Students keep on reflecting to what they are doing to gain more awareness on their learning and integrate their high-order thinking skills.
6. Students should learn together and teacher should be ready in providing support to students when needed.
7. Both teacher and students should be familiar and have basic skills in utilizing information technology since it is the key tool in searching, designing, and inquiring for information.

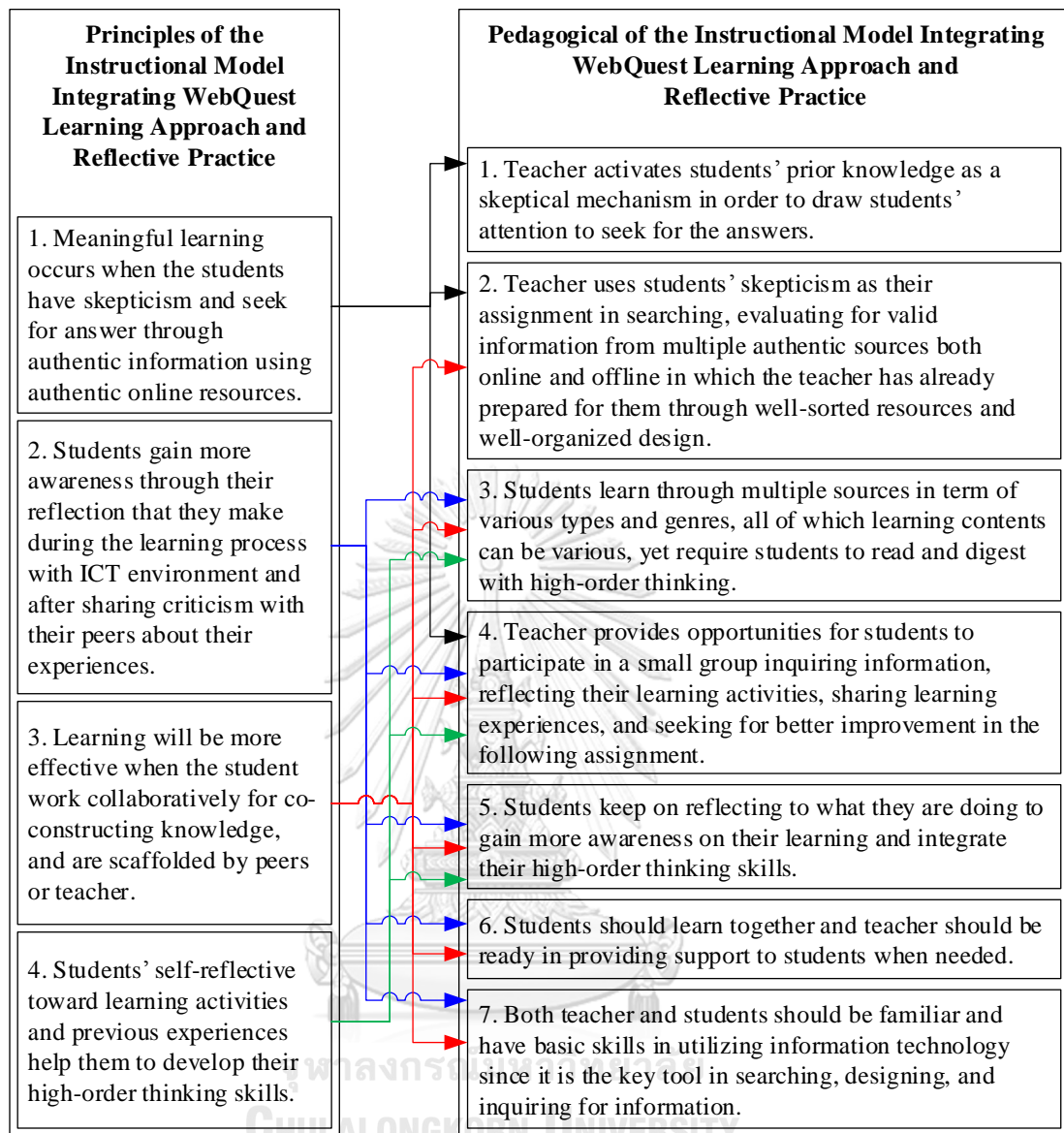


Figure 12 Pedagogical guideline of the instructional model integrating WebQuest Learning Approach and Reflective Practice

2.1.4. Learning steps of the instructional model

Research used the pedagogical guidelines of the instructional model integrating WebQuest Learning Approach and Reflective Practice to design learning steps of the model as shown in Figure 13.

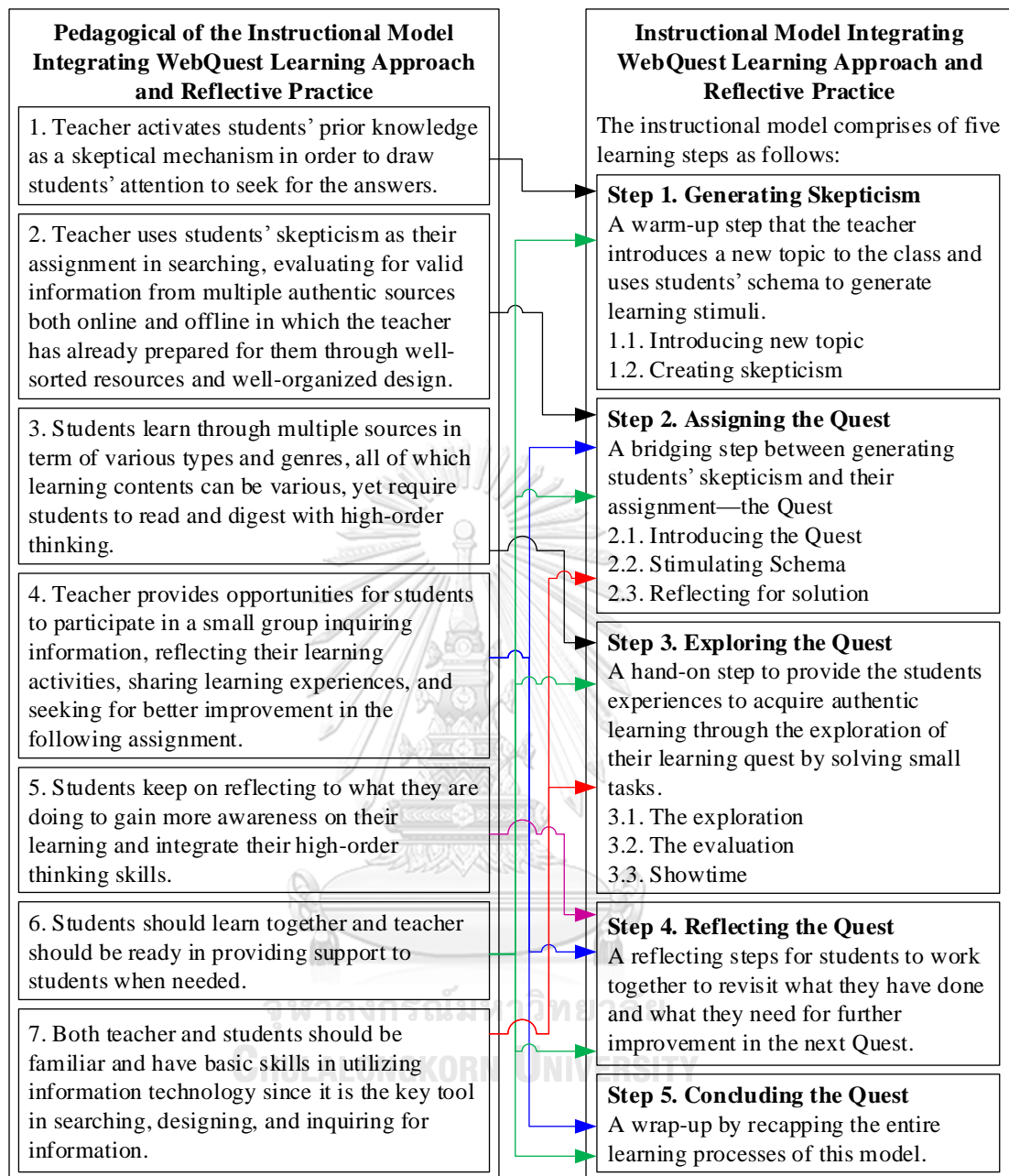


Figure 13 Learning steps of the instructional model

There were five steps in the newly developed instructional model: 1) Generating skepticism, 2) Assigning the Quest, 3) Exploring the Quest, 4) Reflecting the Quest, and 5) Concluding the Quest. The objective, teacher's roles and students' roles of each learning step were shown as followed:

Step 1. Generating skepticism

The main objectives of this step are 1) to arouse the students' interest in the presented topic and 2) to create cognitive conflict as learning mechanism. This step serves as a warm-up step in which the teacher introduces a new topic to the class and uses the students' previous knowledge to generate learning stimuli.

1) Introducing new topic

This is the process of starting a new lesson by telling the students about what they are going to learn and the expected learning outcome that they are going to achieve by the end of the lesson.

1.1) Teacher's roles

Teacher introduces the learning objective(s) and the expected learning outcome that the students achieve by the end of the lesson.

1.2) Student's roles

Students listen attentively to the teacher and think along about what is being introduced.

2) Creating skepticism

This process helps to generate any questions or skeptical mind related to what the students are going to learn.

2.1) Teacher's roles

Teacher asks the students if they have any related ideas/opinions on the topic. Teacher creates an interactive learning environment for the students to fully engage with the learning activities.

2.2) Student's roles

Students think along about what is being introduced and conduct self-questioning about the relation between their previous experiences and the topic.

Step 2. Assigning the Quest

This step functions as a bridging step between generating the students' skepticism and their assignment—the Quest—that they are going to explore. The

main objectives of the second step are 1) to introduce a new Quest and 2) to prepare the students' readiness for their exploration of the Quest.

1) Introducing the Quest

By introducing the Quest, the teacher has opportunities to provide details about the Quest and related tasks to the students. In addition, the students also have opportunities to ask for further clear explanation about what they are going to explore in the next learning step.

1.1) Teacher's roles

Teacher has to make sure that students completely understand about their upcoming task.

1.2) Students' roles

Students listen attentively about what is being explained and ask question related to their assigned task to make sure that they understanding what they are going to do in the next step.

2) Stimulating Schema

Schema stimulation is to draw the students' previous knowledge toward their Quest. It also creates an effective learning atmosphere in which helps not only students with the tasks, but also to prevent the overload of information.

2.1) Teacher's roles

Teacher encourages students to think about any expected solution of solving their Quest and provides opportunities for the students to ask for further details make sure that student understand their tasks.

2.2) Students' roles

Students listen attentively about what is being explained and recall the previous knowledge related to what being presents by the teacher.

3) Reflecting for Solution

In the reflecting for solution part, the students have great opportunities to check and re-check about what they need for their exploration.

3.1) Teacher's roles

Teacher encourages students to think about any expected solution of solving their Quest and provides opportunities for the students to ask for further details make sure that student understand their tasks.

3.2) Students' roles

Students work in a small group and assigning roles for searching for the answer in order to complete their assigned Quest.

Step 3. Exploring the Quest

This step serves as a hand-on step, which provides the students great opportunities to acquire authentic learning through the exploration of their learning quest by solving the small tasks. The main objective of this stage is to provide authentic learning experiences to the students.

1) The Exploration

This procedure is to provide the students to work collaboratively with peers in order to solve the assigned quest. The students need to complete several assigned tasks in order to complete the quest. In addition, the assignment can be both in forms of online or offline, or mix between the two.

1.1) Teacher's roles

Teacher facilitates the class while the students are working with their exploration, and provides scaffolding to the students as needed.

1.2) Students' roles

Students use the learning sources provided by the teacher from step 2 and some other sources on their own to search for the answer, and apply higher order thinking skills as filter and reading skills as means to digest the information from reading texts.

2) The Evaluation

Self-evaluation at this step requires students to read, revise, evaluate to each task with the quest using their reflection-on-action.

2.1) Teacher's roles

Teacher facilitates the class while the students are working with their exploration, and provides scaffolding to the students as needed. Teacher also using question to check students' understanding about their evaluation as well.

2.2) Students' roles

Students reflects about their action in order to keep on track and achieve the Quest, and discuss on their results of their exploration about the quest in a small group.

3) Showtime

The Showtime is the final procedure in this step where each group has to present or illustrate about the result of their assigned quest.

3.1) Teacher's roles

Teacher checks the students' Quest from each group based on what they present to the rest of the class.

3.2) Students' roles

Students work in a small group to design and present the complete Quest in a concerted form (e.g. short essay, acting or role play, etc.)

Step 4. Reflecting the Quest

The objective of this step is to access the students' reflection-on-action during working on the Quest. In this step students work together to reflect what they need for further improvement in the next Quest, the problems they have faced during their exploration, and their future plant for the next Quest.

4.1) Teacher's roles

Teacher provides scaffolding and generates questions for the students to help them with their learning activities and group work.

4.2) Students' roles

Students share an individual's reflection about individual activity during their learning activities in searching for information to their group.

Step 5. Concluding the Quest

The main objectives of this step are to refine the new knowledge and to recap the whole learning processes from the previous learning steps. It requires the students to critically examine the place of the newly acquired knowledge and learning experiences in their existing world view.

5.1) Teacher's roles

Teacher facilitate the students in sharing their learning experiences and help the students to refine their knowledge.

5.2) Students' roles

Students share what the students have learned during learning activities, reflection on their exploration processes about their assigned Quest.

2.1.5. Assessment and evaluation of the instructional model

The newly developed instructional process consisted of two assessments and evaluations: before- and after-process evaluation, and on-process evaluation.

2.1.5.1. Before- and after-process evaluation

Prior to the teaching procedure based on the developed model, the English critical reading ability test was administered to the students as pretest. The English critical reading ability test covered three components of the English critical reading ability: making inference, evaluating information and drawing conclusion, After the treatment, the same tests will be administered to the same group again. After that, the scores of the pretest and posttest will be compared. If the posttest scores are higher, it implies that the students' critical reading ability have been enhanced.

2.1.5.2. On-process evaluation

During the implementing the newly developed instructional model, data on the students' English critical reading ability developed were collected as on-process

evaluation. The instruments used in on-process evaluation were teacher's field note and students' individual tasks. Teacher's field note referred to teacher's observation on the students' learning activities during each learning session, while students' individual tasks referred to student's given handout during each lesson plan.

2.1.6. Lesson plans

Researcher studied the curriculum and learning contents required by selected University where the instructional model was implemented.

Researcher developed lesson plans for the implantation of the model. Over the period of 10 weeks, 8 lesson plans were developed for the students in the experiment group. Each lesson plan was designed for 180-minute instruction with 2 sessions per week. Each lesson plan covered all five learning steps of the instructional model. Each lesson plan shared the same organization: title, time period, learning objective, learning contents, learning activities, learning medias and resources, and assessment and evaluation.

Learning contents used in this study were two English literatures, *Oliver Twist* and *The Old Man and the Sea*, and corresponded to the curriculum of selected University. Eight lesson plans and learning contents were shown in Table 1.

Table 1 Lesson plan for implementing the instructional model

| Week | Unit |
|------|---|
| 1 | Pre-test (English critical reading ability test) |
| 2 | The Old Man and the Sea (Introduction) |
| 3 | The Old Man and the Sea 1, 2 & 3 |
| 4 | The Old Man and the Sea 4, 5 & 6 |
| 5 | The Old Man and the Sea 7, 8 & 9 |
| 6 | Oliver Twist (Introduction) |
| 7 | Oliver Twist Chapter (1–5) |
| 8 | Oliver Twist Chapter (6–10) |
| 9 | Oliver Twist Chapter (10–14) |
| 10 | Post-test (English critical reading ability test) |

2.1.7. Instructional manual of the instructional model

The researcher developed the instructional manual of the model for interested teachers who were interested in implementing in their actual classroom. The instructional manual of the instructional model consisted of:

1. Introduction of the instructional model
2. Components of the instructional model including: principles, objectives, pedagogical guidelines and learning steps of the model
3. Assessment and evaluation of the instructional model
4. Learning setting and students' context
5. Sample lesson plans of the instructional model

2.2. Validating the instructional model

Researcher validated the newly developed instructional model with two validation methods: through experts in related field and pilot study in authentic classroom.

2.2.1. Validating the instructional model by experts

After being revised and approved by advisor and co-advisor, the instructional model integrating WebQuest Learning Approach and Reflective Practice along with two samples lesson plan were validated from five experts in the field of language teaching and computer-assisted learning.

The experts were requested to verify the model using a specific evaluation form including 15 items of affirmative statements, covering seven important points of the model structure: principles, pedagogical guidelines, objectives, teaching and learning processes, learning activities, assessment scheme, and the overall perspective of the model.

A three-point rating scale, from +1 (meaning appropriate), 0 (meaning not sure) and -1 (meaning not appropriate), was employed.

2.2.2. Revising and improving the instructional model

The total index of item-objective congruence (IOC) of the experts' opinion was at 0.97, with no item receiving scores lower 0.83. However, in order to evaluate the content validity of the instructional model, qualitative data were mainly considered.

One expert provided a piece of advice in terms of language used in the instructional model. Then, the researcher made some language revision in the instructional model as suggested, accordingly.

Another expert mentioned a concern about using learning content, which was English literatures, with the newly developed instructional model, the instructional model integrating WebQuest Learning Approach and Reflective Practice. In respond to the expert's concern, this newly developed instructional model aimed to enhance students' ability in applying their high-thinking skills in English reading texts through the processes of inquiring, reading, inferencing, evaluating and conclusion of reading texts.

2.2.3. Validating the instructional model by pilot

After the instructional model and lesson plans were validated and revised by the experts' comments, the instructional model was piloted with a group of 34 second-year English major students for one weeks during the second semester of academic year 2017.

The sample in the pilot study shared the same characteristics as the subjects in the main study. The learning setting and students' context of the pilot group were:

1. Most of the students were from provinces and had few experiences with English-medium instruction.
2. Most of the students had English proficiency at intermediate level.
3. Most of the students was at the basic level using technology and Internet in learning.
4. The selected university of the pilot study is the private university located in Phnom Penh, Cambodia.

5. The selected university of the pilot study had limited access to technology equipment in teaching and learning.

2.2.4. Revising and improving the instructional model

The researcher used the results from the pilot study to anticipate some extraneous variables in various aspects and minimize a number of treatment errors which may have arisen during the actual implementation period. In addition, the pilot study served as a rehearsal which could yield the researcher some ideas about alternatives in the teaching and learning steps. This would lead to the modification and variation of some activities in the plan.

The researcher improved the main weaknesses found were structural elements of the plan; for example, timing, grouping system, and continuity between each activity. In light of timing, it obviously helped the researcher to realize that some steps contained too many activities and took too much time. Accordingly, some activities were deleted and some were mixed or merged into one. Moreover, the way the students formed the groups while joining the class activities affected the production as expected by each task.

The researcher took these findings into notice and set up a configuration, or a system of how groups should be formed. And last of all, the sequence of some activities was changed and rearranged in order to make each step connect to another in more effective and logical ways. This helped the lesson run smoothly and continuously in general.

Phase 3: (Research 2) Study the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability

In this phase, researcher prepared for the implementing the instructional model integrating WebQuest Learning Approach and Reflective Practice into actual classroom in order to investigate the effectiveness of the model. The processes in this phase were shown as follow:

3.1. Preparing for the implementation of the newly developed instructional model

To prepare for the implementing the instructional model, researcher determined the research design of this study, and specified the samples for the data collection process. The details of each process in preparing for the implementation were shown as follows:

3.1.1. Specifying research design

Researcher specified the research design of the implementation. This research was the pre-experiment design with one-group pretest posttest study (Table 2).

Table 2 Research design of this study

| Pretest | Treatment | Posttest |
|---------|--|----------|
| O1 | X | O2 |
| O1 | referred to the pretest using the English critical reading ability test | |
| X | referred to the instructional model integrating WebQuest Learning Approach and Reflective Practice | |
| O2 | referred to the posttest using the English critical reading ability test | |

3.1.2. Specifying population and samples

The processes of specifying population and samples in this study were:

1. Researcher requested for an official letter for implementing the newly developed model from the Faculty of Education, Chulalongkorn University in order to request for approval from selected university in Phnom Penh, Cambodia.

2. Researcher specified the population in this research. The population were students who were studying English as a foreign language at undergraduate level in Cambodia.

The sample in this research were 11 second-year undergraduate English major students who were purposively selected from the Faculty of Language, Arts and Humanities, in the selected university in Phnom Penh, Cambodia. The samples were in the second semester of 2017 academic year, and studied English as their foreign language. The samples, which represented the students at the undergraduate level shared some following characteristics:

1. Majority of the samples were from provinces in Cambodia and had level of the English proficiency level at intermediate level.
2. Majority of the samples were in low- and medium-class family.
3. Majority of the samples had no experiences with English-medium instruction.
4. Majority of the Samples were at the basic level of using technology and Internet in learning.

3.2. Developing research instruments

Researcher developed two research instruments to investigate the effectiveness of the newly developed instructional model. Two research instruments were: 1) the English critical reading ability test and 2) the reflective journal.

3.2.1. English critical reading ability test

The researcher developed the English critical reading ability which covered three main components of the English critical reading ability, namely making inference, evaluating information, and drawing conclusion. The details of the English critical reading ability test were as follows:

1. The core objective of the English critical reading ability test was test the critical reading skills in 1) making inferences, 2) evaluating information, and 3) drawing conclusion.
2. Time allowed for the English critical reading ability test was 60 minutes, and the total score was 45 marks.
3. This test consisted of 30 questions, and categorized into 3 parts:
 - 3.1. Part 1, Situations, consisted of some daily life situations including, advertisements, products' label, notification.
 - 3.2. Part 2, Short reading, consisted of email, online information, and short paragraphs.

3.3. Part 3, Long reading, consisted of the long paragraph that students might come across in their academic life including, research journal, textbook, or essay.

The proportion of the test items in the English critical reading ability test were shown in Table 3.

Table 3 Proportion of items and components in the English critical reading ability

| | Part 1. Situations | | Part 2. Short reading | | Part 3. Long reading | | TOTAL |
|----------------------|-----------------------|----------------|--------------------------|----------------|-------------------------|----------------|-------|
| | MCQ | Open- ended | MCQ | Open- ended | MCQ | Open- ended | |
| Make inference | 2, 9, 11 | 1, 6 | 13, 18 | 21 | 24 | 25 | 10 |
| Evaluate information | 7 | 3, 4, 10 | 15 | 14, 22 | 26, 27, 28 | - | 10 |
| Draw conclusion | 12 | 5,8 | 19, 20 | 16, 17, 23 | 29 | 30 | 10 |
| TOTAL | 6 | 7 | 5 | 7 | 5 | 1 | 30 |

3.2.2. Marking rubric score

Researcher developed marking rubric score for the open-ended question in the English critical reading ability test. The details of the rubric score were as follows:

1. The objective of the marking rubric score was to mark open-ended questions in the English critical reading ability test.
2. The rubric score covered three components of English critical reading ability, namely 1) making inference, 2) evaluating information, and 3) drawing conclusion.
3. The rubric score consisted of 3 marking scales, ranging 0, 1 and 2.

Table 4 showed the marking criteria of each components in English critical reading ability.

Table 4 . Marking rubric score for the open-ended question in the English critical reading test

| | Marking Scales | | |
|---------------------------|---|---|---|
| | 0 | 1 | 2 |
| 1. Making inference | The reader is unable to make an educated guess about the unknown word by using hints (words or phrases) before or after it; or the reader is able to construct meaning by integrating given hints in a text with personal background knowledge. | The reader partly makes an educated guess about the unknown word by using hints (words or phrases) before or after it; or the reader partly constructs meaning by integrating given hint in a text with personal background knowledge. | The reader completely makes an accurate educated guess about the unknown word by using hints (words or phrases) before or after it; or the reader completely constructs meaning by integrating given hint in a text with personal background knowledge. |
| 2. Evaluating information | The reader is unable to provide specific explanation on various aspects of the text including sources of information, facts or opinions, author's bias, figurative language, propaganda, point of view. | The reader partly provides some specific explanations or partly makes comparison on some aspects of the text such as: sources of information, facts or opinions, author's bias, figurative language, propaganda, point of view. | The reader always provides specific explanation or fully compares various aspects of the text such as: sources of information, facts or opinions, author's bias, figurative language, propaganda, point of view. |
| 3. Drawing conclusion | The reader is unable to create a new logical statement based on individual pieces of information from the text; or the reader is unable to decide whether to accept or reject the text based upon the result of the reader's evaluation. | The reader either partly creates a new logical statement based on individual pieces of information from the text; or provide some reason to support his/her decision of accepting or rejecting the text based upon the result of the reader's evaluation. | The reader completely creates a new logical statement based on individual pieces of information from the text; or the reader logically decides whether to accept or reject the text based upon the result of the reader's evaluation. |

3.2.3. Reflective journal

Researcher developed a reflective journal, and the details were as follows:

1. The objective of the reflective journal was to collect qualitative data of the students' English critical reading ability development learning with the instructional model.
2. The reflective journal covered some aspects of learning with the instructional model. For example, what's the one thing that students had seen in their classmate's work or process that they would like to try in their next task? What resources did the student use while working on this quest? Which one were especially helpful? Which one would the student use again?
3. The reflective journal was administered at the end of each lesson.

3.3. Validating the research instruments

The research instruments, 1) English critical reading ability test, 2) marking rubric score, and 3) reflective journal, were validated 1) by experts in the related field of study and 2) by try-out.

3.3.1. Validating by experts

Three research instruments were validated by 5 experts in language teacher field and teaching English as a Foreign language for the indexes of item-objective congruence (IOC). The evaluations form covered:

1. The evaluation on the degree of appropriateness of all 30 test items in the English critical reading ability test.
2. The validity of the rubric score for marking open-ended questions in the English critical reading ability test.
3. The overall aspect of the English critical reading ability test, rubric score, and reflective journal.

The results of evaluation by five experts were:

1. Evaluation of the test items consisted of 3-scale of appropriateness, +1 for not appropriate, 0 for not sure, and -1 for not appropriate. For not appropriate items, extra comment for were highly appreciated.

2. Overall evaluation of the English critical reading ability test consisted of 3-scale of appropriateness, +1 for not appropriate, 0 for not sure, and -1 for not appropriate. For not appropriate items, extra comment for were highly appreciated.

This evaluation parts covered whether:

1. the rubric scores for marking open-ended questions in the English critical reading ability were clear and well-written.

2. Time allowance (60 minutes) for the test was appropriate.

3. The instructions in the test were clear and well-written.

4. The number of proportion of the components of critical reading were appropriate.

5. The level of difficulty of the reading materials were suitable with the students' level.

3.3.2. Validating by try-out

Researcher administered the English critical reading ability test for try-out among 60 undergraduate students who shared the same characteristic to the sample group in this study. The aim of this try-out was to valuate difficulty index (P), discrimination index (r), and Conbrach coefficient of the English critical reading ability test.

The try-out results of the English critical reading ability test were as follows:

1. The difficulty index (P) was from 0.20 to 0.72.

2. The discrimination index (r) was from 0.40 to 0.50.

3. The Cronbrach coefficient was at 0.88.

3.3.3. Revising the research instruments

The overall result of IOC from the experts were at .08. One test item received 0.4 which needed a revision. One expert provided constructive comments on the language use from question number 27 to 29. One expert mentioned about the time allowed, which was only 60 minutes, for the English critical reading ability test. The expert further suggested that researcher should provide more time for the test since the proportion and reading items might be time consuming for the students at this level. Thus, researcher revised the English critical reading ability test and change the time allowed of the test into 90 minutes test according to the expert's comment.

Another expert mentioned about using only one test for both pretest and posttest, which the reliability of the instrument was very low. In this respond to the expert's concerned, the English critical reading ability test will be use twice in pretest and posttest with 8 weeks interval. According the test-retest reliability, [Martín-Loeches et al. \(2017\)](#) mentioned than an outstanding test-retest reliability in short-term was one week. In addition, [Mason and Bramble \(1997\)](#) pointed out the longer the time spent, the greater the probability that something could influence the subjects' environment that in turn would affect the results. As a result, the researcher made some revision of the language use for better understanding, yet covered the same meaning. The list of item revision was shown in Table 5.

Table 5 List of item revision in the English critical reading ability test

| English Critical Reading Ability Test | | |
|---------------------------------------|--|---|
| | Item Before revision | Item After revision |
| 27 | a) Knowledge, while of the greatest importance, serves to create the necessity of the application of that knowledge toward the attainment of virtue. b) Knowledge is that stuff made of man through studies in places like universities wherein virtue is extolled by God. c) Knowledge, while of paramount importance, cannot presume to extend virtue which, in the overall measure, is to be considered of greater value. | a) Knowledge creates the necessity of virtue b) Knowledge is man-made and virtue is created by God. c) Knowledge cannot presume to extend virtue. d) Knowledge is apparent through refinement. |

| English Critical Reading Ability Test | | |
|---------------------------------------|--|--|
| | Item Before revision | Item After revision |
| | d) Knowledge is that which is apparent through refinement whereas virtue is that element gained through the application of that knowledge. | |
| 28 | a) to describe with figurative language about the similarities between virtue and knowledge. b) to metaphorically represent the extreme contrast between virtue and knowledge. c) to represent the virtue and knowledge such that the everyone could understand. d) to create a concrete picture instead of abstract philosophical representations. | a) to describe the similarities between virtue and knowledge. b) to show the differences between virtue and knowledge. c) to explain the virtue and the knowledge. d) to create an abstract philosophical representation. |
| 29 | a) Although knowledge is greatly to be sought, virtue is of greater value for it has the power to manipulate the passion and pride of man. b) While knowledge is of greatest importance, virtue is of necessity a series of qualities that augment that large knowledge gained in a university. c) Notwithstanding the value of virtue as it relates to the passions and pride of man, knowledge makes it possible to understand virtue and is, therefore, of superior value. d) Given that virtue is a much desired attribute, it becomes even more so when taking into account that virtue is what stimulates an appreciation of knowledge. | a) Although knowledge is great, virtue is of greater value. b) While knowledge is of greatest importance, virtue is of necessity in a university. c) The value of virtue is superior value. d) Virtue is a much-desired attribute |

3.4. Implementing the instructional model in authentic classroom

The experiment was carried out with 11 second-year undergraduate English major students who were purposively selected from the Faculty of Language, Arts and Humanities, in the selected university in Phnom Penh, Cambodia. The samples were in the second semester of 2017 academic year, and studied English as their foreign

language. The processes of implementing the instructional model integrating WebQuest Learning Approach and Reflective Practice were as follows:

1. In the first session of the first week of implementing the instructional model, the English critical reading ability test was administered to the sample group as pretest.

2. In the second session of the first week, researcher provided orientation about the process of the implementation of the instructional model and checking the students' basic computer skills and other related technology skills.

3. Over the period of eight weeks, the sample group interacted with eight lesson plans. In each lesson plan, the students exposed with the completed loop of the learning steps of the instructional model.

4. In week ten, the English critical reading ability test was administered to the students again as posttest.

3.5. Analyzing data

Researcher analyzed the results from the data collection according the research objective. The guidelines for data analysis were in Table 6.

Table 6 Guidelines for data analysis in this study

| | Research objective | Data analyses | Instrument |
|---|---|---|--|
| 1 | To investigate the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice by comparing undergraduate students' critical ability before and after learning with the model | Comparing English critical reading ability of the students before and after implementing the instructional model using non-parametric, Wilcoxon Signed-Rank test. | The English critical reading ability test was use in both pretest and posttest. |
| 2 | To investigate students' critical reading ability development with the instructional model integrating WebQuest Learning Approach and Reflective Practice | Studying the students' critical reading ability development using content analysis | The instruments included students' individual task, students' reflective journal and teacher's field note. |

Phase 4: (Development 2) Revising and developing the instructional model

In this step researcher revised the instructional model integrating WebQuest Learning Approach and Reflective Practice after the implementation. The details of the revisions were as follows:

1. Duration of the learning step, Step 3 Exploring the Quest, of the instructional model has been modified in correspond with learning activities in which the students needed more time to explore, and prepare their final Quest and their showtime.
2. Two sub-steps of the Exploring the Quest were integrated together for better improvement and practical use in the real classroom.
3. ICT environment of the newly developed instructional model was redefined to best fit with target group's characteristic.

The details of the research results were shown in Chapter 4.

CHAPTER 4

RESEARCH FINDINGS

In the research entitled “Development of an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia” comprised of two sections as follows:

Section 1. The results of the development of the instructional model integrating WebQuest Learning Approach and Reflective Practice

Section 2. the results of the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice

Section 1. The results of the development of the instructional model integrating WebQuest Learning Approach and Reflective Practice

The instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability has been implemented and the results of the implementation of the instructional model required some improvements. The results of the improvement of the instructional model integrating WebQuest Learning Approach and Reflective Practice are shown as follows:

1. Principles of the instructional model

The instructional model integrating WebQuest Learning Approach and Reflective Practice comprises of four principles as follows:

1. Meaningful learning occurs when students have skepticism and apply them as their learning stimuli to search for the answer using authentic information from authentic online resources.

2. Students gain more awareness by reflecting back to their learning processes with information and communication technology environment, and by sharing criticism of their learning experiences with peers.

3. Learning will be more effective when the students work collaboratively to construct knowledge, and being scaffolded by peers or teacher.

4. Students' self-reflection toward learning activities and previous learning experiences help them to develop their high order thinking skills.

2. Objectives of the instructional model

The objective of the instructional model integrating WebQuest Learning Approach and Reflective Practice is to enhance English critical reading ability of undergraduate students in Cambodia.

3. Pedagogical guidelines of the instructional model

The pedagogical guidelines of the instructional model integrating WebQuest Learning Approach and Reflective Practice are:

1. Teacher activates students' skeptical mind using their prior knowledge as learning stimuli in order to draw students' attention to seek for the answers.
2. Teacher uses students' skepticism as their assignment in searching, evaluating for valid information from multiple authentic sources both online and offline through well-sorted resources and well-organized design.
3. Students learn better through multiple sources in term of various types and genres, all of which require the students to read and digest with high order thinking skills.
4. Teacher provides opportunities for students to work collaboratively in a small group inquiring information, reflecting their learning activities, sharing learning experiences, and seeking for better improvement in the following assignment.
5. Students keep on reflecting to what they are doing to gain more awareness on their learning and integrate their high order thinking skills.
6. Students should learn together and teacher should be ready in providing support to students when needed.
7. Both teacher and students should be familiar and have basic skills in utilizing information technology since it is the key tool in searching, designing, and inquiring for information.

4. Learning steps of the instructional model

The learning steps of the instructional model integrating WebQuest Learning Approach and Reflective Practice were shown in Table 7:

Table 7 Learning steps of the instructional model integrating WebQuest Learning Approach and Reflective Practice

| STEP 1. GENERATING SKEPTICISM | | |
|--------------------------------------|---|---|
| Objectives | The main objectives of this step are 1) to arouse the students' interest in the presented topic and 2) to create cognitive conflict as learning mechanism | |
| Description | This step serves as a warm-up step in which the teacher introduces a new topic to the class and uses the students' previous knowledge to generate learning stimuli. This step also functions as a checklist of the students' previous experiences on the topic. It helps the teacher in generating cognitive conflict about the topic as well. To achieve the objectives of this step, two aspects of learning should be conducted: introducing a new topic and creating skepticism | |
| | Learning Sub-step | Learning Activities |
| | 1.1. Introducing new topic This is the process of starting a new lesson by telling the students about what they are going learn and the expected learning outcome that they are going to achieved by the end of the lesson. | Several learning activities can be used to introduce a new topic such as: telling an anecdote or a short story, asking questions, playing game, or visualizing. |
| | 1.2. Creating skepticism This process is to generate any questions or skeptical mind related to what the students are going to learn, since students' skepticism are used as learning stimuli for further inquiry about the topic. This process is also designed to check the students' previous knowledge about the topic as well. | Learning activities in this part can be presented in various forms such as: providing open-ended or asking controversial questions about related topic. |

| | | |
|------------------------------------|--|--|
| Teacher's roles | <ul style="list-style-type: none"> • introducing the learning objective(s) and the expected learning outcome that the students achieve by the end of the lesson, • drawing the students' prior knowledge about the topic, • ask the students if they have any ideas/opinions on the topic, and • creating an interactive learning environment for the students to fully engage with the learning activities. | |
| Students' roles | <ul style="list-style-type: none"> • listening attentively to the teacher, • thinking along about what is being introduced, • share an individual experience on the topic to the rest of the class, • conducting self-questioning about the relation between their previous experiences and the topic. | |
| STEP 2. ASSIGNING THE QUEST | | |
| Objectives | The main objectives of the second step are 1) to introduce a new quest and 2) to prepare the students' readiness for their exploration of the quest. | |
| Description | This step functions as a bridging step between generating the students' skepticism and their assignment—the Quest—that they are going to explore. The Quest used in this model refers to a single task or a complete set of multiple related tasks in which the students have to complete every single task in order to solve the Quest. This step serves as preparatory stage for the students' readiness for their exploration and creating an interactive learning atmosphere. The attributes of this step are: introducing the Quest, schema stimulation, and reflecting for solution. | |
| | Learning Sub-step | Learning Activities |
| | <p>2.1. Introducing the Quest By introducing the Quest, the teacher has opportunities to provide details about the Quest and related tasks to the students. In addition, the students also have opportunities to ask for further clear explanation about what they are going to explore in the next learning step</p> | <p>In this step, learning activity is so obvious since the teacher plays the main roles in providing details about what the main Quest is, what the students are going to do. Therefore, the lecturing techniques is the most appropriate in this procedure. Question-and-answer technique is also used to elaborate further details of the Quest.</p> |

| | | |
|-------------------------------|---|---|
| | <p>2.2 Stimulating Schema After getting the Quest assigned, the students start to link what they are going to explore with their previous experiences. Unlike “Creating Skepticism”, schema stimulation is drawing the students’ previous knowledge toward their Quest. It also creates an effective learning atmosphere in which helps not only students with the tasks, but also to prevent the overload of information.</p> | <p>In order to stimulate the students’ schema and to create an effective learning environment, question-and-answer technique is recommended. Moreover, any activities such as discussing in small group, brainstorming and playing game are also recommended for building personal interaction and creating relaxing learning atmosphere.</p> |
| | <p>2.3 Reflecting for Solution In the reflecting for solution part, the students have great opportunities to check and re-check about what they need (e.g. reading skill, higher order thinking skill, searching skill, etc.) and plans to achieve their Quest in the step of Exploring the Quest.</p> | <p>To reflect for any solutions before the exploration, the students to think about solutions as many possible ways as they can. Therefore, brainstorming and think-pair-share are recommended as the effective learning activity.</p> |
| <p>Teacher’s roles</p> | <ul style="list-style-type: none"> • making sure that the students completely understand about their upcoming tasks in the following step, • encouraging the students to think about any expected solution of solving their Quest, • providing scaffolding students during their learning process as needed, • providing opportunities for the students to ask for further details make sure that student understand their tasks, and • providing Internet sources as authentic learning resources for students to do their inquiry. | |
| <p>Students’ roles</p> | <ul style="list-style-type: none"> • listening attentively about what is being explained, • applying higher order thinking skill to filter their needs for exploration step, • working in a small group and assigning roles for searching for the answer, and • working collaboratively with both peers and teacher in designing an interacting and effective learning atmosphere. | |

| STEP 3. EXPLORING THE QUEST | | |
|------------------------------------|--|---|
| Objectives | The objective of this stage is to provide authentic learning experiences to the students. | |
| Description | <p>Description This step serves as a hand-on step, which provides the students great opportunities to acquire authentic learning through the exploration of their learning quest by solving the small tasks. This exploration can be conducted either using online access or offline access. Firstly, each task requires students to conduct the same loops of the exploration process: reading for information with critical filter, reflecting in current task, and evaluating the task. Moreover, the task can be conducted inside or outside classroom. Secondly, when each task is completed, students have to conduct an evaluation on their Quest by using the concept of reflection-on-action in order to seek for the flaw and further improvement. Finally, the achievement of the Quest is the ShowTime in which can be presented in various forms. The learning procedures are the consecutive process in exploring the Quest.</p> | |
| | Learning Sub-step | Learning Activities |
| | <p>3.1. The Exploration and evaluation</p> <p>This procedure is to provide the students to work collaboratively with peers in order to solve the assigned quest by:</p> <p><i>Working on a single task assigned</i>—since each task lead to the completion of the quest, the students have to complete each task within the assigned quest.</p> <p><i>Self-questioning</i>—this occurs simultaneously during this learning step with the purpose to help the students to remain on their tasks.</p> <p><i>Self-evaluation</i>—at this step requires students to read, revise, evaluate to each task with the quest using their reflection-on-action. This stage</p> | <p>The exploration of the assigned tasks can be possibly conducted outside the classroom. Therefore, learning activity that could link each task together needs to be more carefully selected and evaluation guidelines about their task should be given to help students remain on their tasks.</p> <p>Providing learning contents (e.g. reading passages, Internet access, authentic resources, etc.) need to be carefully prepared and delivered as well. In addition, asking the students to briefly write learning log also helps the teacher to see the</p> |

| | | |
|-------------------------------|--|--|
| | <p>needs to be done before the following step, the Showtime.</p> <p><i>Reflecting</i>—this helps the students to check back and forth on their plans that they have designed from the second step, and</p> <p><i>Asking for support</i>— this part can occur at any time during the exploration process in which the teacher needs to be ready to scaffold the students with their learning processes. This learning procedure is more complicated since the students need to complete several assigned tasks in order to complete the quest. In addition, the assignment can be both in forms of online or offline, or mix between the two.</p> | <p>students' reflection during their exploration as well. Another learning activity of this procedure is to allow the students to note down what they have done during their exploration and share with the class.</p> |
| | <p>3.2. Showtime</p> <p>The Showtime is the final procedure in this step where each group has to present or illustrate about the result of their assigned quest.</p> | <p>Visualization and classroom presentation are the most effective learning activities in which the students are able to provide the concrete result of the quest.</p> |
| <p>Teacher's roles</p> | <ul style="list-style-type: none"> • controlling the class / students' learning activities, scaffolding to the students as needed, • generating questions for students to help students with their learning activities/group work, and • encouraging the students to share their answers, perceptions, and beliefs about their learning. | |

| | | |
|-------------------------------------|---|---|
| Students' roles | <ul style="list-style-type: none"> • using the learning sources provided by the teacher from step 2 and some other sources on their own to search for the answer, • applying high order thinking skills as filter and reading skills as means to digest the information, • reflecting about their action in order to keep on track and to achieve the Quest, • discussing on their results of their exploration about the quest in a small group, • summarizing and reviewing similarities and differences from what is elicited, and • presenting the complete Quest in a concerted form (e.g. short essay, acting or role play, etc.) | |
| STEP 4. REFLECTING THE QUEST | | |
| Objectives | The objective of this step is to assess the students' reflection-on-action during working on the Quest. | |
| Description | Description This step is conducted after the students' Showtime about their Quest. In this step students work together to reflect what they need for further improvement in the next Quest, the problems they have faced during their exploration, and their future plan for the next Quest. | |
| | Learning Sub-step | Learning Activities |
| | The students work together to reflect what they need for further improvement in the next Quest, the problems they have faced during their exploration, and their future plan for the next Quest. | Recommended learning activity for this procedure is group discussion or any learning activity involves with working in group. |
| Teacher's roles | <ul style="list-style-type: none"> • controlling the class / students' learning activities, • providing scaffolding to the students as needed, • generating questions for the students to help them with their learning activities / group work, and • encouraging the students to share their answers, perceptions, and beliefs. | |
| Students' roles | <ul style="list-style-type: none"> • The students should share an individual's reflection about individual activity during their learning activities in searching for information to their group. | |

| STEP 5. CONCLUDING THE QUEST | | |
|-------------------------------------|---|--|
| Objectives | The main objectives of this step are 1) to refine the new knowledge and 2) to recap the whole learning processes from the previous learning steps. | |
| Description | Description The final step of the process serves as a wrap-up by recapping the entire learning processes of this model. It requires the students to critically examine the place of the newly acquired knowledge and learning experiences in their existing world view. Within a small group, the students edit, refine, and reflect their works from earlier steps. The students work together to resolve for better improvement for their following learning experiences. | |
| | Learning Sub-step | Learning Activities |
| | Wrap-up This is the last learning procedure where the teacher provides opportunities for the students to recap their previous learning activities, to refine what they have learned during the previous process of learning, and to reflect the complete process of learning. | Group discussion is the most recommended learning activity for this procedure. |
| Teacher's roles | <ul style="list-style-type: none"> • facilitating the students in sharing their learning experiences, • providing guidance and feedback to the students during the wrap-up procedure, • helping the students to refine their knowledge, and allow the students to share what they learned and to evaluated the learning. | |
| Students' roles | <ul style="list-style-type: none"> • sharing what the students have learned, reflection on their exploration processes about their assigned tasks, • concluding what they have learned. | |

Section 2. the results of the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice

After the lesson plans, based on the basis of the newly developed instructional model, were validated by a group of experts in the field and piloted during the try-out phase, they were implemented in an authentic class of 11 students, who were the

subjects of this present study, in order to evaluate the effectiveness of the developed reading instructional model. The results of the evaluation were shown based on quantitative data and qualitative data as follows:

1. Quantitative data

Table 8 Compare pretest and posttest of the English critical reading ability test

| | | N | Mean Rank | Sum of Ranks | Z | p |
|----------------------|----------------|----|-----------|--------------|------|-----|
| Pretest— Posttest | Negative Ranks | 10 | 6.50 | 65.00 | 2.85 | .00 |
| | Positive Ranks | 1 | 1.00 | 1.00 | | |
| | Ties | 0 | | | | |
| | Total | 11 | | | | |

From [Table 8](#), a Wilcoxon Signed-Ranks test indicated that the Pretest of the English critical reading ability test (mean rank=1.00) was low score than the Posttest (mean rank=6.50), $Z=2.85$, $p=.00$. The results of the statistical analysis using Wilcoxon Signed-Ranks test shows that the posttest scores of the English critical reading ability test were significantly higher at the level of .05.

Table 9 Compare pretest and posttest of the component the English critical reading ability test

| | | N | Mean Rank | Sum of Ranks | Z | p |
|---|----------------|----|-----------|--------------|------|-----|
| Pretest— Posttest Making inference | Negative Ranks | 10 | 5.50 | 55.00 | 2.82 | .00 |
| | Positive Ranks | 0 | .00 | .00 | | |
| | Ties | 1 | | | | |
| | Total | 11 | | | | |
| Pretest— Posttest Evaluating information | Negative Ranks | 10 | 6.45 | 64.50 | 2.81 | .00 |
| | Positive Ranks | 1 | 1.50 | 1.50 | | |
| | Ties | 0 | | | | |
| | Total | 11 | | | | |
| Pretest— Posttest Drawing conclusion | Negative Ranks | 10 | 6.40 | 64.00 | 2.78 | .00 |
| | Positive Ranks | 1 | 2.00 | 2.00 | | |
| | Ties | 0 | | | | |
| | Total | 11 | | | | |

From [Table 9](#), in the component of making inference in the English critical reading ability test, a Wilcoxon Signed-Ranks test indicated that the Pretest (mean rank=5.50) was low score than the Posttest (mean rank=.00), $Z=2.82$, $p=.00$. For evaluating information, a Wilcoxon Signed-Ranks test indicated that the Pretest (mean rank=6.40) was low score than the Posttest (mean rank=2.00), $Z=2.81$, $p=.00$. For drawing conclusion, a Wilcoxon Signed-Ranks test indicated that the Pretest (mean rank=6.45) was low score than the Posttest (mean rank=1.50), $Z=2.78$, $p=.00$. The results of the statistical analysis using Wilcoxon Signed-Ranks test showed that the posted of all components of the English critical reading ability of the sample group were significantly higher at the level .05.

2. Qualitative data

2.1. Setting

2.1.1 University

1. The sample university in this study was a private university, which was located in Phnom Penh, Cambodia.
2. The classes were offered in three learning shifts: morning shift, afternoon shift, and evening shift.
3. The selected university used the semester system. Each semester consisted of 16 weeks of instruction.
4. The Selected university used Khmer language as teaching and learning medium, except The Faculty of Language, Arts and Humanities.

2.1.2. Teacher

1. The Faculty of Language, Arts and Humanities of the selected university consisted of 20 teachers.
2. Teachers were categorized into two group: part-time teacher and fixed-teacher.

3. Teachers obtained Master's Degree as the lowest degree, and Doctoral Degree as the highest degree.

2.1.3. Students

1. The majority students were from provinces in Cambodia and had level of the English proficiency level at the intermediate level.
2. The majority of the students were in low- and medium-class family.
3. The students had no experiences with English-medium instruction.
4. Majority students were at the basic level of using technology and Internet in learning.
5. Majority students learned more than one bachelor degrees at the same time.

2.2 English critical reading ability development of the students learning with WebQuest Learning Approach and Reflective Practice

The results of the students' English critical reading ability development were evaluated using the teacher's field note, students' tasks, and students' reflective journals. The results were shown based on the components of the English critical reading ability: namely making inference, evaluating, and drawing conclusion.

According to the definition of term in the first chapter, students with English critical reading ability were able to:

1. make inferences by using reader's background knowledge to understand what is not directly stated in a text. In addition, the reader has to either make an educated guess about the unknown word by using hints, or construct meaning by integrating given hints in a text with personal background knowledge.
2. evaluate information by making a logical judgment, providing a specific explanation, or examining upon various aspects of information in a text including author's purpose and tone, author's point of view, facts or opinions, author's bias, figurative language.

3. draw conclusion by combining particular facts together, or making decision toward the reading itself. Critical reader draws a conclusion by either creating a new logical statement based on individual pieces of information from the text, or deciding whether to accept or reject the text based upon the result of the reader's evaluation.

The students' English critical reading ability development were categorized into 3 periods, namely Beginning period (lesson plan 1, 2 and 3), Middle period (lesson plan 4, 5 and 6), and Ending period (lesson plan 7 and 8). The Beginning period and the Middle period consisted of 3 lesson plans in each period, since the students exposed with the newly developed instructional model for the first time in the Beginning period, and the students were familiar with the instructional model in the Middle period. Thus, these two periods required more observational data and evidences for content analysis.

The results of the students' English critical reading ability development were shown as follows:

2.2.1 Making inference

2.2.1.1. Beginning period

According to the teacher's observation field note during the first step of lesson plan 1, the teacher asked the students if they were able to describe how to make any inferences from reading text. In respond, some students were in silent while some answered No. The teacher further elaborated the question by giving an example, but most students answered: I don't know, teacher and I don't understand your question. At the meantime, a student was able to provide a reasonable answer. However, some students replied that I'm just guessing, when the teacher asked for further explanation from the student. This can be implied that most of the students were not able to convey meaning from what they read in general.

From the teacher's field not in the first lesson plan, several keywords from the students' respond showed that majority of the students did not know what making inferences from the reading text mean, or the students were not able to apply their background knowledge in constructing educated guess. In addition, it was also

noticeable that the student, who gave the acceptable answer, was not able to provide a firm reason to support the answer.

In "The old man and the sea" (Chapter 1-3), Read the following speaker's quotations. Then briefly explain what does the speaker mean.

1. "First you borrow, then you beg."
This mean that you first borrow the money, and you beg for money when adde.

2. "Remember we are in September."
The old man asks the boy about their memory in last September.

3. "Anyone can be a fisherman in May."
The old man mean that there are alot of fish in the sea so every body can be a fisherman.

Figure 14 Excerpted from student's handout in lesson plan 2

According to [Figure 14](#), the result showed that the student was able to make inferences about information at some particular level, but with no logical reason to support. However, the teacher further asked for supporting details from the same student in [Figure 14](#). The students' respond was considerably correct, but did not hold any rigid supporting details from the situation. In addition, [Figure 14](#) showed that students answer all the three questions in correspond to the questions. However, the answers provided by the student was literally answered without any supporting clues. This result could be implied that the student was not able to provide rigid support or details to the student's inferences.

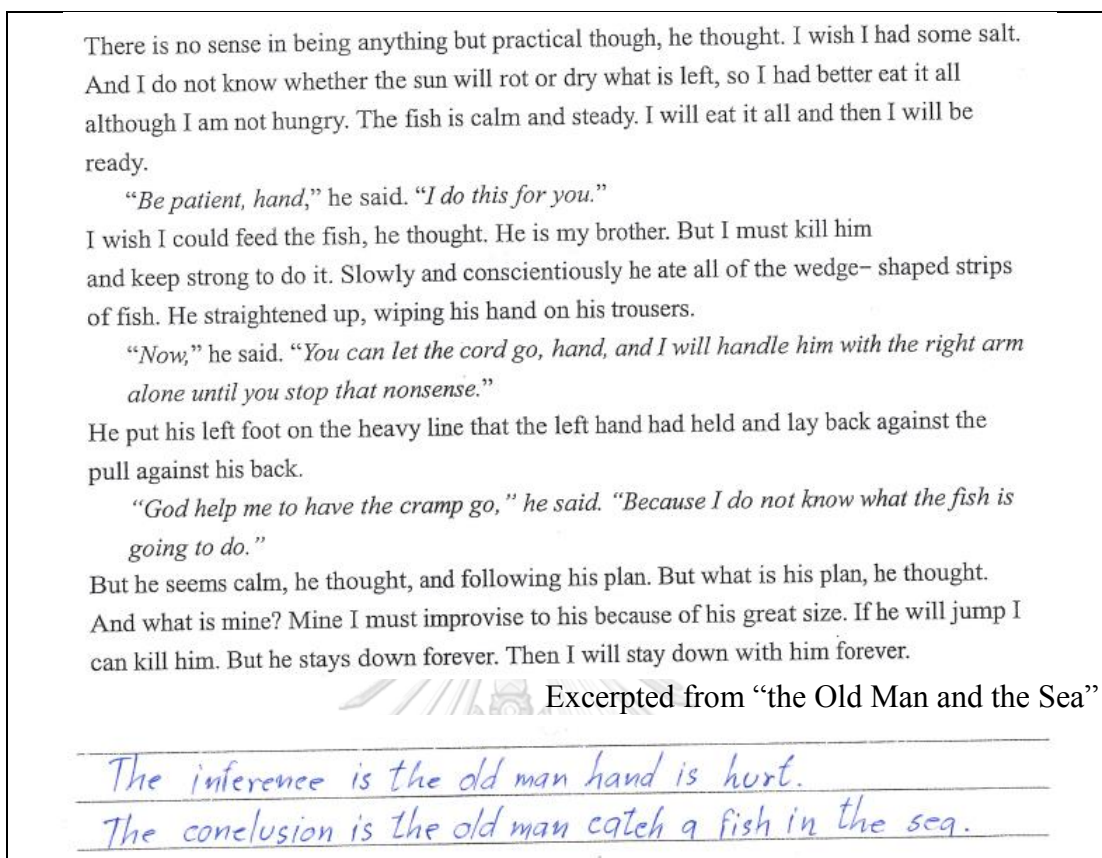


Figure 15 Excerpted from student's handout in lesson plan 3

According to [Figure 15](#), the student's answers were considered as partly acceptable. For instance, the student answered

"The inference is the old man is hurt." (HandoutSILP3)

The answer was correct, but the student did not provide further support details, for example: you can let the cord go hand, or God helps me with the cramp go. From teacher's field note and students' task in this period, the results showed that student somehow provided appropriate answer to the question, but there were no evidences to support that students using given clues in drawing any inferences from reading texts.

2.2.1.2. Middle period

In this period, the students have learned and participated with learning activities for at least 3 lesson plans. The results from teacher's observation in the Middle period showed that majority of students used their smart phone to look of

information. The results from the learning observation also showed that the students went active during their learning.

In lesson plan 6, while the students were working on their reading task, the teacher walked around the class and conducted some on observation on the student's learning. Teacher noticed Student 1, then teacher asked Student 1 about the passage [Figure 16](#).

| | |
|--|---|
| <p>Pretend you are at the doctor's office to get a shot. There are many children of all ages waiting their turn to see the doctor. That same little boy you saw at shopping mall is sitting on his mother's lap screaming his head off just like he did in the candy aisle. No matter what she does, he will not stop.</p> | <p>1. What can you infer? <u>(d)</u></p> <p>(a) He is still angry about not getting the candy.</p> <p>(b) He has an earache.</p> <p>(c) He is scared because he is there for a shot.</p> <p>(d) There are not enough clues to draw a conclusion.</p> <p>Keyword for inference: _____ / _____ / _____</p> |
|--|---|

Figure 16 Excerpted form student's handout in lesson plan 6

According to [Figure 16](#), Student 1 answered the correct choice, choice D, and the student did not write any keyword in the spaces provided. In order to confirm whether the student chose the correct answer by chance or by understanding, the teacher asked for more details form the students. The student answered:

"I am pretty sure about the answer." (From: TF-SILP6)

And the student provided the reason as:

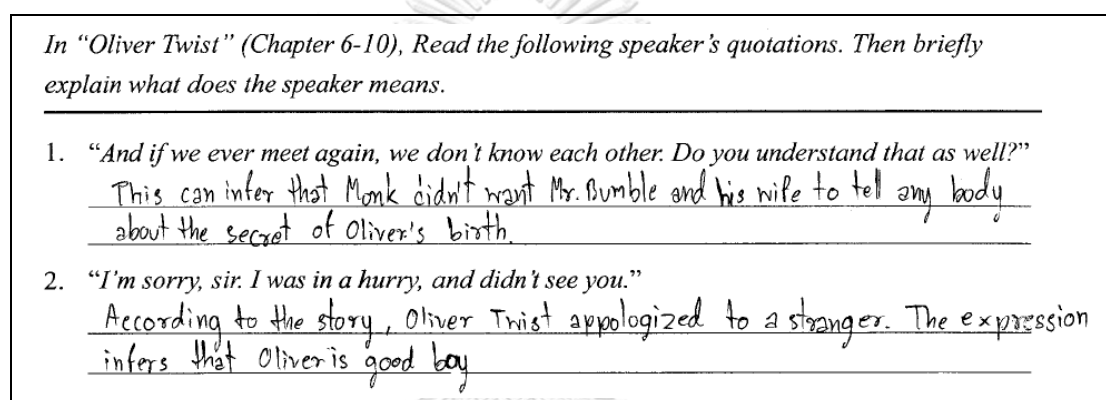
"The reason that I choose choice D, because there is no information to give as a clue that the boy wants candy or he is scare of getting a shot."
 (From: TF-SILP6)

From [Figure 16](#), the results showed that the student chose the correct answer to the question, even though Student 1 did not write any supporting details in the spaces give. However, results from the teacher's field note showed that Student 1 was able to provide logical reasoning to support his choice based on the keyword such as: the boy wants candy or he is scare of getting a shot.

In conclusion, the results showed that the students were able to provide correct answer to the question. Although students did not mention any keywords to their inferences in writing, they were able to provide supporting to their inferences verbally.

2.2.1.3. Ending period

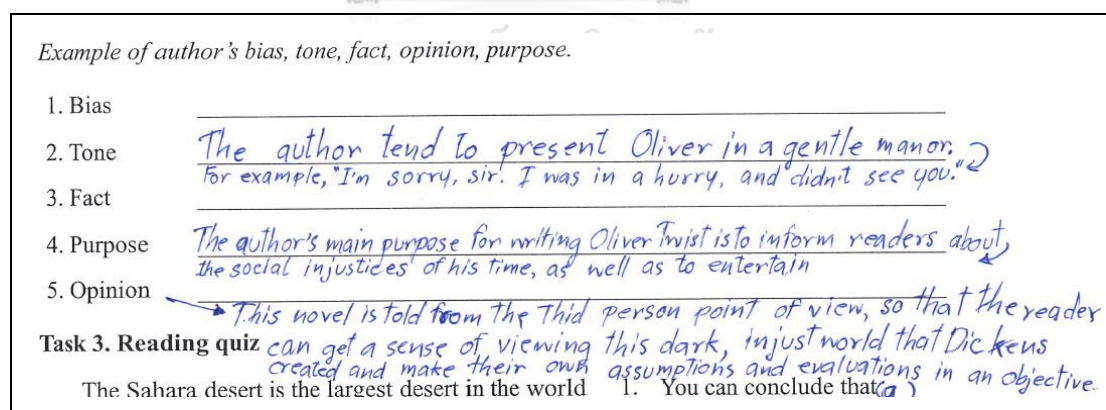
During the ending period of teaching and learning with the in instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability, results of the students' ability in making inferences were shown as follows:



In "Oliver Twist" (Chapter 6-10), Read the following speaker's quotations. Then briefly explain what does the speaker means.

- "And if we ever meet again, we don't know each other. Do you understand that as well?"
This can infer that Monk didn't want Mr. Bumble and his wife to tell any body about the secret of Oliver's birth.
- "I'm sorry, sir. I was in a hurry, and didn't see you."
According to the story, Oliver Twist appologized to a stranger. The expression infers that Oliver is good boy

Figure 17 Excerpted from student's handout in lesson plan 7



Example of author's bias, tone, fact, opinion, purpose.

- Bias
- Tone: The author tend to present Oliver in a gentle manor.
- Fact: For example, "I'm sorry, sir. I was in a hurry, and didn't see you."
- Purpose: The author's main purpose for writing Oliver Twist is to inform readers about the social injustices of his time, as well as to entertain
- Opinion: This novel is told from the thid person point of view, so that the reader can get a sense of viewing this dark, injust world that Dickens created and make their own assumptions and evaluations in an objective.

Task 3. Reading quiz
The Sahara desert is the largest desert in the world 1. You can conclude that a)

Figure 18 Excerpted form student's handout in lesson plan 8

Figure 17 and Figure 18 were from the students' handout during the Ending period. The results in Figure 17 showed that student answered correctly, and was able to clarify the clues that was used to support the answer such as:

*“didn’t want his wife to tell anybody about Oliver’s birth”
(HandoutSILP8)*

*“supporting the answer that Oliver is a good boy with support idea
which is Oliver’s expression.” (HandoutSILP8)*

In addition, students were able to apply their abilities in making inferences in order to provide examples to each question such as in [Figure 18](#).

In conclusion, the results of the students’ English critical reading ability in making inferences of reading text showed that students were able to read between the lines using their background knowledge or making an educated guess about the what they read. The results also showed that the students’ English critical reading ability in making inferences were enhance in the Ending period learning with the model.

2.2.2. Evaluating information

2.2.2.1. Beginning period

In lesson plan 1, the teacher was walking around the class and check the students’ process in exploring the Quest while they were working on their task. Then, the teacher asked some questions related to their task. Teacher asked:

“What are you looking for?” (FieldnoteLP1)

A student replied that he was looking for in formation of the first task, which he had to find five characters from the story the Old Man and the Sea and their roles. The student further explained that he used the resources sheet that the teacher gave him. Student said:

*“I find it using resource sheet that you gave me. Now I am reading from
the Sparknote website.” (FieldnoteSILP1)*

In the same group, another student said that

“I didn’t check all the website” (FieldnoteS2LP1)

“There are a lot in your resources sheet, but we just read the one gives the answer first.” (FieldnoteS3LP1)

“Because this website has all details of my work, so I can read all information from this.” (FieldnoteS4LP1)

From the teacher field note in lesson plan 1, the students did not show any relevant ability in evaluating information of their readings. The students accepted information from only one online source which they think best match to what they were searching for, such an example:

“There are a lot in your resources sheet, but we just read the one gives the answer first.” (FieldnoteS5LP1)

In addition, the results showed that students accepted the sources as authentic based on the quantity of its contents, which cover the task they were looking for as example:

“Because this website has all details of my work, so I can read all information from this.” (FieldnoteS6LP1)

| |
|--|
| <p>1. What resources did you use while working on this quest? Which one were especially helpful? Which one would use again?</p> <hr/> <p><i>I use internet for my research on this quest. I choose two website google and spark notes.</i></p> <hr/> |
|--|

Figure 19 Excerpted from student's reflective journal in lesson plan 1

According to [Figure 19](#), the result from the student's reflective journal in lesson plan 1 showed that the student chose to conventional search engine, Google, as the primary search of all. From this journal, the student did not elaborate the processes of evaluating information after conducting their searches.

2.2.2.2. Middle period

From the teacher's field note in lesson plan 5, the teacher read a short passage to a group during exploring the Quest.

“In Oliver Twist, Dickens attacks the New Poor Law of 1834. The New Poor Law was really a series of measure that were enacted 1834. Supposedly, these laws were to provided aid and assistance to impoverished people. However, the system had serious flaws. People with no means of support were sent to workhouse would be unpleasant. It was thought that this would provide added incentive for people to be self-sufficient. As a result of that thinking the food in the workhouse was meager and meals were to be eaten in silence. Upon entering the workhouse families were separated and assigned to same-sex quarters. The children were separated from the adults. Infants were sent to baby farm.” (FieldnoteLP5)

Then, the teacher asked the students to define how the author expressed his/her idea in writing passage, and how the students evaluated the reading text. Student 1 answered

“Because this passage from charlesdickensinfo.com, the author explains about the life in the 1800s through his writing.” (FieldnoteS1LP5)

Another student, Student 2, responded:

“The author uses fact about The New Poor Law in England.” (FieldnoteS2LP5)

Then, the teacher asked for further elaborated detail, and Student 2 answered:

“Because I have checked to confirm if the New Poor Law is really existed. And I read from two more websites to confirm, workhouse.org.uk and bbc.co.uk. And these two websites are the real website.” (FieldnoteS2LP5)

In addition, the teacher asked about the students' judgment toward the New Poor Law in the 1800s. Then, Student 3 answered:

“The author provides some negative part of the law, for example the word, the system had serious flaws.” (FieldnoteS3LP5)

The results from the teacher’s field note in lesson plan 5 showed that students were able to evaluate information of reading text by providing a specific explanation about the purpose and point of view of the writer with logical information to support, for example, Student 4 answered:

“The author provides some negative part of the law, for example the word, the system had serious flaws.” (FieldnoteS4LP5)

The results also illustrated the students’ ability in distinguishing between facts or opinion of the writing in the reading text by further explore more related information using related and specific key word, such as: the New Poor Law in the 1800s. In addition, students selected only reliable online sources for their reading and as supporting details to their evaluation.

2. Write three different points between two media of the story (book vs. movie). Which one (media) is the most reliable, Why?

| | Book | Movies |
|---|--------------------|--------------------|
| 1 | difficult language | easy to watch |
| 2 | only words | have color picture |
| 3 | | |

3. Which source (book or movie) is the most reliable one? Why?
 The book is very reliable because there is a name of writer and the book is for studying.

Figure 20 Excerpted from student's handout in lesson plan 5

From the [Figure 20](#), the results of students’ English critical reading ability in evaluating information of reading text showed that students were able to provide logical reasoning in distinguishing the sources as shown in [Figure 20](#). For instance,

student compared level of comprehension difficulty of the sources of Oliver Twist story such as:

*“difficult language and only word for reading from the book”
(HandoutS1LP5)*

“easy to watch and have color picture for movie” (HandoutS1LP5)

The results also showed that student chose the book sources as reliable because it consisted a clear author name, for example, the book is very reliable because there is a name of writer.

In short, the results from the teacher’s field note and the student’s task showed that the students’ ability in evaluating several aspects of reading such as purpose, tone, or point of view of an author were noticeable in the Middle period.

2.2.2.3. Ending period

In the Ending period of implementing the instructional model, from the teacher’s field note in lesson plan 7, the students shared their reflection on what they did on their group reflection. Teacher asked about what the students did in their exploring the Quest. Then, Student 1 from group 1 shared what he did during the exploration of the Oliver Twist chapter 10 to 14.

*“What I did on my exploration was I check which chapter of Oliver Twist that we are going to study to day. And then I check what the Quest that you assign us. For me, I try the same online source from previous lesson, because I used to know who wrote it, where it from.”
(FieldnoteS1LP7)*

“During my exploration, I checked to domain of the website first before going to what inside that website. Example, .org .com. or .gov, are the most reliable website because it belongs to organization or government.” (FieldnoteS2LP7)

“I read Oliver Twist from two sources, cliffnotes.com and sparknote.com, because these two websites have summary of the story, but I find other website to see if the write have the same purpose or point of view to the story.” (FieldnoteS3LP7)

“I searched in google and read two or three sources. Then, I check if the website has writer and I read them. If more than two sources are the same. Then, I consider it as correct.” (FieldnoteS4LP7)

“I checked the name of the domain name first .org .gov or .edu, because I know that these websites have clear author. I checked if what I read are writer’s opinion or real data by using that key term to start a new search to confirm.” (FieldnoteS5LP7)

The results from the teacher’s field note in lesson plan 7 showed that students did different way to evaluate their reading texts. For example, Student 1 used the same online resource which was already confirmed as authentic from previous task as the first priority in the next searching, for example, *“I try the same online source from previous lesson, because I used to know”* (FieldnoteS1LP7), while Student 2 and Student 5 checked the domain name as their first priority, for example, *“I checked to domain of the website first before going to what inside that website”* (FieldnoteS2LP7), or *“I checked the name of the domain name first .org .gov or .edu, because I know that these websites have clear author”* (FieldnoteS5LP7). The results also showed that students did evaluation information by comparing between two websites as mentioned by Student 3 *“I read Oliver Twist from two sources”* (FieldnoteS3LP7) and by Student 4 *“If more than two sources are the same”* (FieldnoteS4LP7). The results also showed that students in the Ending period were aware in checking whether what they read online was the author’s point of view or the actual facts as Student 3 *“I find other website to see if the write have the same purpose or point of view to the story”* (FieldnoteS3LP7) and Student 5 *“I checked if what I read are writer’s opinion or real data by using that key term to start a new search to confirm”* (FieldnoteS5LP7).

The results of the students' English critical reading in evaluating information of reading text showed that students were able to either provide a specific explanation about purpose, tone, or point of view of an author; and logical support to their answer as shown in [Figure 21](#).

| Example of author's bias, tone, fact, opinion, purpose. | |
|---|---|
| 1. Bias | the author describe Oliver as a good, gentle boy and the author end the story with happy ending for |
| 2. Tone | Sentimental, sometimes ironic, hyperbolic, crusading "I'm sorry, sir. I was in hurry, and didn't see you." |
| 3. Fact | For example, the "Workhouse" mentioned in Oliver Twist was real according to British library website (www.bl.uk) |
| 4. Purpose | Charles Dickens writes Oliver Twist to show about society in the 18th century |
| 5. Opinion | Based on information from sparknote.com , The narrator is third person omniscient, and assumes the points of view of various characters in turn. The narrator's tone is not objective; it is sympathetic to the pro. |

Figure 21 Excerpted from student's handout in lesson plan 8

[Figure 21](#) showed that the student was able to provide logical support in each evaluation term. For instance, "the student emphasized that Oliver as a good, gentle boy" (HandoutS1LP8), "ending the story with happy ending" (HandoutS1LP8) as support in evaluating the author's bias from the reading. The results also showed that the student also defined the evaluation of the fact in the Oliver Twist story with rigid support,

"the workhouse mentioned in the Oliver Twist story was real according to British library website, www.bl.uk." (FieldnoteS1LP8)

The results of the English critical reading ability in evaluating information in the three periods showed that students were able to make a logical judgment upon various aspects of information in a text. Students were able to either provide a specific explanation or make comparison or examine various aspects of the text such as: sources of information, facts or opinions, or point of view of the author.

2.2.3. Drawing conclusion

2.2.3.1. Beginning period

During the beginning period, the results of the English critical reading ability in drawing conclusion from reading text of students were only rewrite sentences from the Old Man and the Sea to form conclusion. Students did not use any facts or individual pieces of from the story to create a new logical statement [Figure 22](#).

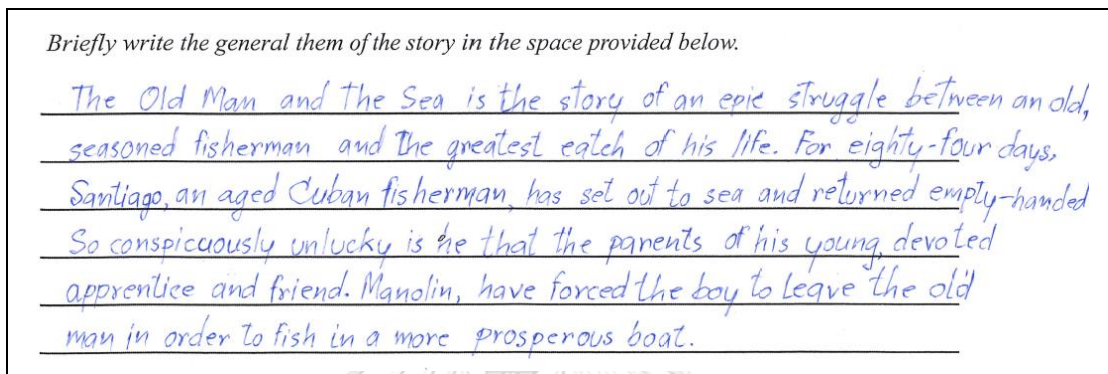


Figure 22 Excerpted from student's handout in lesson plan 1

From the teacher' field note in lesson plan 2, the teacher showed a short passage on the screen. Teacher said:

“Dara and his father had been looking forward to their fishing trip for weeks. They didn't take much food with them on the trip. When they started fishing they were quickly approached by a forest ranger. He asked Dara's father if he had a fishing license. Dara's father reached into his wallet and suddenly got a terrified look on his face. Dara was disappointed that night as he ate dinner.” (FieldnoteLP2)

Teacher then asked:

“How can you conclude from the passage?” (FieldnoteLP2)

Most of the students were in silent for a while. Student 1 answered:

“I read for important part and bring it all together.” (FieldnoteSILP2)

Teacher then asked:

“So, after you read this, what is your conclusion about this story?”
(FieldnoteLP2)

Student 1 replied:

“My conclusion about the story is that only Dara and his dad go fishing.” (FieldnoteSILP2)

The result from the teacher’s field note in lesson plan 2 showed that student only described the general view of making conclusion. Student 1 did not describe how to create a new logical statement based on individual pieces of information from the text.

There is no sense in being anything but practical though, he thought. I wish I had some salt. And I do not know whether the sun will rot or dry what is left, so I had better eat it all although I am not hungry. The fish is calm and steady. I will eat it all and then I will be ready.

“Be patient, hand,” he said. *“I do this for you.”*

I wish I could feed the fish, he thought. He is my brother. But I must kill him and keep strong to do it. Slowly and conscientiously he ate all of the wedge- shaped strips of fish. He straightened up, wiping his hand on his trousers.

“Now,” he said. *“You can let the cord go, hand, and I will handle him with the right arm alone until you stop that nonsense.”*

He put his left foot on the heavy line that the left hand had held and lay back against the pull against his back.

“God help me to have the cramp go,” he said. *“Because I do not know what the fish is going to do.”*

But he seems calm, he thought, and following his plan. But what is his plan, he thought. And what is mine? Mine I must improvise to his because of his great size. If he will jump I can kill him. But he stays down forever. Then I will stay down with him forever.

Excerpted from “the Old Man and the Sea”

The inference is the old man hand is hurt.

The conclusion is the old man catch a fish in the sea.

Figure 23 Excerpted from student's handout in lesson plan 3

Figure 23 showed that student did not provide any fact information the reading text that the conclusion was derived. The results of this also showed that students English critical reading ability in drawing conclusion were lack of supporting information.

2.2.3.2. Middle period

In the Middle period, the students had been learning with the instructional model for at least 3 weeks. The results of the students' English critical reading ability in drawing conclusion were shown as following Sample.

From the teacher's field note in lesson plan 4, the teacher asked how the students draw conclusion about the Old Man and the Sea from chapter 7 to 9.

“According to what I read, I can conclude that the old man's patient pays his price, because he waits for very long time with no fish and he caught a big Marlin on the third day, and the fish was too strong that he could drag Santiago's boat too. The Marlin's blood leaves a blood trails in the water and attracts shark which Santiago manages to slay with the harpoon. In the struggle, the old man loses the harpoon and lengths of valuable rope, which leaves him vulnerable to other shark attacks.” (FieldnoteLP4)

Then, the teacher asked what the student got after drawing conclusion. Student 1 replied:

“Based on my conclusion, the purpose of the writer wants to show that the old man is very patient and he respect the fish too.” (FieldnoteSILP4)

| | |
|---|---|
| <p>William Shakespeare was an actor, poet, and playwright. His plays are timeless because he deals with the motivating forces behind the daily choices that man makes. He expresses himself in a lyrical way. He was born in England in 1564 and died in 1616. He understood man so well that what he had to say years ago still is appropriate about man today. He continues to influence many philosophers and writers.</p> | <p>1. You can conclude that _____</p> <p>(a) that Shakespeare couldn't understand the people in his time.</p> <p>(b) that people are able to relate to Shakespeare's characters.</p> <p>(c) Shakespeare was the most successful as an actor.</p> <p>(d) no one reads Shakespeare's plays.</p> |
| | <p>Keyword for conclusion: timeless / influence / understood</p> |

Figure 24 Excerpted from student's handout in lesson plan 4

From the teacher's field note in lesson plan 4 and student's handout in [Figure 24](#), the results showed that students were able to integrate important facts in order to conclude what they read. For example, the student the teacher's field note conducted summarizing based on the information he read,

"the old man's patient pays his price, because he waits for very long time with no fish and he caught a big Marlin on the third day."
(FieldnoteSILP4)

In addition, the student applied the results of his conclusion as an evaluation for the writer purpose of the writing. [Figure 24](#), the student was able to provide the correct answer with the key facts from reading which help in conclusion. The results in the Middle period showed that students were able to draw conclusion from reading text using the key facts to support their conclusion.

2.2.3.3. Ending period

During the ending period After learning with the Instructional model integrating WebQuest Learning Approach and Reflective Practice, the students have been participating with the learning processes which provided them to collaboratively work with their peer on assigned learning tasks. In addition, the students have opportunities to practice on relating ideas existed in reading text to each other to form a logical statement. Students are able to identify and describe key indicators, words or phrases, in the writing in order to formulate a conclusion as shown below:

From the teacher's field note during reflecting the Quest in lesson plan 7, the teacher asked all students to recall their learning experiences during the Exploration step.

"I read the passage related Oliver Twist that you have assigned."
(FieldnoteS1LP7)

"Yes, we also read Oliver Twist the same as group 1, but might be different sources." (FieldnoteS2LP7)

"When I read, I collect information from the story I read. Then I use what the writer tells in the story to draw conclusion." (FieldnoteS3LP7)

Teacher asked:

"Could you what you can conclude as much as you can remember from what you have read to the class?" (FieldnoteLP7)

"As what I have concluded about Oliver Twist chapter 6 to 10, my conclusion is Oliver was sent to assist Sikes in a burglary and he was shot by a servant of the house and, after Sikes escapes. In the morning, Oliver was taken in by the women who live there, Mrs. Maylie and her beautiful adopted niece Rose. But Fagin and a mysterious man named Monks were set on recapturing Oliver. Meanwhile, it was revealed that Oliver's mother left behind a gold locket when she died. Monks obtains and destroys that locket. When the Maylies came to London, Nancy met secretly with Rose and informs her of Fagin's designs, but a member of Fagin's gang overhears the conversation. Mr. Brownlow forced Monks to sign over Oliver's shared to Oliver. Moreover, it was discovered that Rose was Agnes's younger sister, hence Oliver's aunt. Fagin was hung for his crimes." (FieldnoteS3LP7)

"I can use it to help explain to my group member, and I can also use it for evaluation." (FieldnoteS3LP7)

Task 3. Reading quiz *can get a sense of viewing created and make their own*

The Sahara desert is the largest desert in the world and takes up over three million square miles, which is almost the size of the United States. The Sahara desert is found in Africa. The Sahara isn't all just sand. It has almost 100 oases or springs of water. Oil and gas can be found under this vast desert. There are other natural resources such as: copper, iron, ore, and uranium. The desert doesn't get much rain. There aren't any paved roads, but cars can be driven on the desert floor. There are about two million people who live in the large desert.

this dark, unjust world that Dickens assumptions and evaluations in an objective manner

1. You can conclude that (a)

- it is difficult to travel in the Sahara desert.
- all plants die since there isn't any water.
- people have used all the oil in the desert.
- people like to live in the desert.

Keyword for conclusion:

the size is very big / it doesn't get much rain / there aren't any paved roads

This is the end of handout 8.1.

Figure 25 Excerpted from student's handout in lesson plan 8

From Figure 25, the result show that the student was able to use information fact for conclusion. In addition, the student used the chronological order of Oliver Twist story in his conclusion. In Figure 25, the student applied his conclusion as information in evaluation of the text. In Figure 25, the student selected the correct answer with supporting facts from the reading passage for the conclusion such as “*the size is very big*” (HandoutS3LP7), “*it doesn't get much rain*” (HandoutS3LP7), and “*there aren't any pave roads*” (HandoutS3LP7).

From the samples of the three periods, results showed that students in the ending period have improved the English critical reading ability in drawing conclusion comparing to the Beginning period. It was also concluded that the instructional model integrating WebQuest Learning Approach and Reflective Practice affected the students' English critical reading ability development in drawing conclusion by combining particular facts together, making decision toward the reading itself, or deciding whether to accept or reject the text based upon the result of the student's evaluation.

The summaries, discussions and recommendations of this research will be presented Chapter 5.

CHAPTER 5

SUMMARY, DISCUSSIONS AND RECOMMENDATIONS

The research entitled “Development of an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia” encompassed three objectives as follows:

1. To develop an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia.
2. To investigate the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice by comparing undergraduate students’ English critical reading ability before and after learning with the model.
3. To investigate the students’ English critical reading ability development learning with the instructional model integrating WebQuest Learning Approach and Reflective Practice.

Research processes

The research processes of this study comprised of four phases of research and development.

Phase 1: (Research1) Studying of the significance of the problem and learning approaches

In this phase, researcher studies the significance of the problems of the English critical reading at the university level in the Cambodia context. Researcher studied documents from the Research Policy Master Plan of the Ministry of Education, Youth and Sports in Cambodia about a major challenge for the students at tertiary level were the mismatch between the need of the labor. The results of the document studies showed that Cambodian undergraduate students were lack in term of English language skills, critical thinking ability and the current products on the labor market. In addition, researcher studied and analyzed related documents and research articles for the best solution, which enhance undergraduate students’ critical

thinking abilities to best fit with current labor market. Researcher also studied the related documents, textbooks and research journals to study the contemporary teaching and learning of English critical reading in other countries which shared the same characteristic comparing to Cambodia contexts, namely English as foreign language countries, ranking as developing country, and focusing on the undergraduate level.

The results showed that 1) the ability to draw inferences from reading text, 2) the ability to formulate logical judgment or integration of comparison and contrast features of information, and 3) the ability to conclude using the logical reasoning from text of majority undergraduate students were limited.

Phase 2: (Development 1) Developing of the instructional model integrating WebQuest Learning Approach and Reflective Practice

The development of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability and related documents of the model comprised of four steps as follows:

1. The instructional model was developed on the basis results of the significance of the problem in English critical reading ability among Cambodian undergraduate student from the first phase. Two learning approaches, WebQuest Learning Approach and Reflective Practice, were integrated in order to specify the principles, pedagogical guidelines and learning steps of the newly developed instructional model.
2. The related documents of the newly developed instructional model, namely the instructional manual and lesson plans, were also developed in this phase. The instructional manual of the model includes: learning principles, objectives, learning steps, and assessment and evaluation. Lesson plans of the model comprises of title, duration, learning objectives, learning steps, learning activities, learning resources, and evaluation and assessment.
3. The newly developed instructional model with the instructional manual were first revised and improved in accordance to comments from both advisor and co-advisor, before external experts' validation. For the construct validity, the

instructional model and related documents were validated by 5 experts in related field. After being revised using experts' comments, the instructional model and related documents were validated again in pilot study in small group who shares the characteristic as the population of the study. Then, the instructional model and related documents received another revision and improvement before the authentic implementation.

Phase 3: (Research 2) Study the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability

The pre-experiment design with one group pretest posttest was implemented for studying the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice in the authentic classroom. The sample in this research were 11 second-year undergraduate English major students who were purposively selected from the Faculty of Language, Arts and Humanities, in selected university in Phnom Penh, Cambodia. The samples were in the second semester of 2017 academic year, and studied English as their foreign language.

The instrument for collecting English critical reading ability test was developed for studying the effectiveness of the newly developed instructional model in enhancing the English critical reading ability of undergraduate students. The 90-minute English critical reading ability test consists of 30 questions categorized into three parts: situations, short reading and long reading. After receiving comments from both advisor and co-advisor, the test was validated for structure and content validity by 5 experts in related fields. Then, the test was further revised using feedback from experts before try-out with 60 second-year undergraduate students for difficulty index (P), discrimination index (r), and Conbrach coefficient.

The implementation of the instructional model integrating WebQuest Learning Approach and Reflective Practice were as follows:

1. Eleven second-year undergraduate English major students in the second semester of 2017 academic year were purposively selected from the Faculty of Language, Arts and Humanities, in selected university in Phnom Penh, Cambodia.

2. Before the implementing the newly developed instructional model, in week one, English critical reading ability test was administered to the sample as pretest.
3. Over the period of eight weeks, from week 2 to 9, the sample group interacted with eight lesson plans. In each lesson plan, the students exposed with the completed loop of the learning steps of the instructional model.
4. In week 10, the English critical reading ability test was administered to the sample as posttest.
5. The data of English critical reading ability of the sample were analyzed using non-parametric, Wilcoxon Signed-Ranks test.

Phase 4: (Development 2) Revising and developing the instructional model

After the implementation, the instructional model integrating WebQuest Learning Approach and Reflective Practice was improved in several aspects as follows:

1. Duration of learning step, Step 3 Exploring the Quest, of the instructional model has been modified in correspond with learning activities in which the students needed more time to explore, and prepare their final Quest and their showtime.
2. Two sub-steps of the Exploring the Quest were integrated together for better improvement and practical use in real classroom.
3. ICT environment of the newly developed instructional model was redefined to best fit with target group's characteristic.

Summary

The summary of this study was presented into two sections:

Section 1. The results of the development of the instructional model integrating WebQuest Learning Approach and Reflective Practice

Section 2. the results of the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice in enhancing English critical reading ability of undergraduate students

Section 1. The results of the development of the instructional model integrating WebQuest Learning Approach and Reflective Practice

1. Components of the Instructional model

1.1. Objective of the instructional model

The objective of the instructional model integrating WebQuest Learning Approach and Reflective Practice is to enhance English critical reading ability of undergraduate students in Cambodia.

1.2. Principles of the instructional model

The principles of the instructional model integrating WebQuest Learning Approach and Reflective Practice are as follows:

1. Meaningful learning occurs when students have skepticism and apply them as their learning stimuli to search for the answer using authentic information from authentic online resources.
2. Students gain more awareness by reflecting back to their learning processes with information and communication technology environment, and by sharing criticism of their learning experiences with peers.
3. Learning will be more effective when the students work collaboratively to construct knowledge, and being scaffolded by peers or teacher.
4. Students' self-reflection toward learning activities and previous learning experiences help them to develop their high order thinking skills.

1.3. Pedagogical guidelines of the instructional model

The pedagogical guidelines of the instructional model integrating WebQuest Learning Approach and Reflective Practice are:

1. Teacher activates students' skeptical mind using their prior knowledge as learning stimuli in order to draw students' attention to seek for the answers.
2. Teacher uses students' skepticism as their assignment in searching, evaluating for valid information from multiple authentic sources both online and offline through well-sorted resources and well-organized design.
3. Students learn better through multiple sources in term of various types and genres, all of which require the students to read and digest with high order thinking skills.
4. Teacher provides opportunities for students to work collaboratively in a small group inquiring information, reflecting their learning activities, sharing learning experiences, and seeking for better improvement in the following assignment.
5. Students keep on reflecting to what they are doing to gain more awareness on their learning and integrate their high order thinking skills.
6. Students should learn together and teacher should be ready in providing support to students when needed.
7. Both teacher and students should be familiar and have basic skills in utilizing information technology since it is the key tool in searching, designing, and inquiring for information.

1.4. Learning steps of the instructional model

Step 1. Generating skepticism

This step functions as warm-up step where the teacher uses student's schema to create learning stimuli. Teacher also uses this step to introduce new lesson to the students. In this step, teacher is the main key person in creating and bringing students' skeptical mind about the topic to the learning process. At the meantime, the students have to pay attention to what being presented. Teacher is able to assess students' skepticism and understanding through learning observation.

Step 2. Assigning the Quest

This step serves as a preparatory stage for the students' readiness for the students' exploration, and it also serves as instructional step where teacher use for assigning the quest to students. The students have to listen attentively to the instruction and plan for any possible ways to solve the quest. Since this step requires students to obtain a clear understanding about what they are going to explore in the next step, teacher have to make sure that all students under what they need to do in the following step. Therefore, teacher is able to ask students to describe what their Quest is, or check their expected planning for their exploration of the Quest.

Step 3. Exploring the Quest

This step aims to provide students full learning experiences with exploring online information to achieve their Quest. In addition, students have to apply high-order thinking to evaluate online information and conduct self-questioning about their learning process. In this step, the teacher acts as facilitator in scaffolding for guided questions or technical support. At the end of the exploration, students have to share their completed Quest to the rest of the class during Showtime. Since the exploring the Quest is considered as they critical step if this model, learning assessment is divided into two parts, during the students' exploration and at the Showtime. Teacher can check students working during their exploration by asking and observing the students' learning process, while showtime both teacher and students can help each other to evolution the complete product.

Step 4. Reflecting the Quest

This step functions as discussion time where the students work together to reflect what they have faced during their exploration and what they need for future improvement in their next quest. In this step, teacher acts as facilitator while students randomly take turn to share their learning experiences.

Step 5. Concluding the Quest

This final step of this model acts as a wrap-up step. Teacher recaps the what the students have learned, and the students refine and reflect what they have learned.

1.5. Assessment and evaluation of the instructional model

The instructional model integrating WebQuest Learning Approach and Reflective Practice consists of two assessments and evaluations: before- and after-process, and on-process evaluation.

Before-process assessment and evaluation of the English critical reading ability of the students was evaluated with the English critical reading ability test.

On-process assessment and evaluation, teacher's field note, students' individual tasks and reflective journal was use to evaluate the students' English critical reading ability development on the students' learning activities during each learning session, while students' individual tasks referred to student's given handout during each lesson plan

2. Related documents of the instructional model

The instructional model integrating WebQuest Learning Approach and Reflective Practice consists of two related documents, the instructional manual and lesson plans.

The instructional manual of the model aims to facilitate interested teacher for better understanding for effective implementation of the instructional model integrating WebQuest Learning Approach and Reflective Practice in enhancing students' English critical reading ability. The instructional manual of the model includes: learning principles, objectives, learning steps, and assessment and evaluation. Lesson plans of the model comprises of title, duration, learning objectives, learning steps, learning activities, learning resources, and evaluation and assessment.

Eight lesson plans were developed based on the instructional model integrating WebQuest Learning Approach and Reflective Practice. Each lesson plan was designed for 180-minute instruction and covered all 5 learning steps, namely Generating skepticism, Introducing the Quest, Exploring the Quest, reflecting the Quest, and Concluding the Quest. Each lesson plan shared the same organization: title, time period, learning objective, learning contents, learning activities, learning medias and resources, and assessment and evaluation.

Section 2. the results of the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice in enhancing English critical reading ability of undergraduate students

To investigating the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice, the model was implemented among the sample of 11 second-year undergraduate English major students in Faculty of Language, Arts and Humanities, in selected university in Phnom Penh, Cambodia. The samples were in the second semester of 2017 academic year, and studied English as their foreign language.

A Wilcoxon Signed-Ranks test indicated that the Pretest of the English critical reading ability test (mean rank=1.00) was less score than the Posttest (mean rank=6.50), $Z=2.85$, $p=.00$. The results of the statistical analyzing using Wilcoxon Signed-Ranks test shows that the posttest of the English critical reading ability test of the sample were significantly higher at the level of .05.

The results of making inference in the English critical reading ability test, a Wilcoxon Signed-Ranks test indicated that the Pretest (mean rank=5.50) was less score than the Posttest (mean rank=.00), $Z=2.82$, $p=.00$. For evaluating information, a Wilcoxon Signed-Ranks test indicated that the Pretest (mean rank=6.40) was less score than the Posttest (mean rank=2.00), $Z=2.81$, $p=.00$. For drawing conclusion, a Wilcoxon Signed-Ranks test indicated that the Pretest (mean rank=6.45) was less score than the Posttest (mean rank=1.50), $Z=2.78$, $p=.00$. The results of the statistical analysis using Wilcoxon Signed-Ranks test showed that the posted of all components of the English critical reading ability of the sample group were significantly higher at the level .05.

2. Discussions

The discussions in this research are presented based on two aspects:

1. The development of the instructional model integrating WebQuest Learning Approach and Reflective Practice.
2. The effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability.

2.1. The development of the instructional model integrating WebQuest Learning Approach and Reflective Practice

The development of an instructional model Integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia was systematically developed by integrating two learning approaches, WebQuest Learning Approach and Reflective Practice.

Firstly, researcher studied and analyzed related documents in teaching and learning English critical reading in Cambodian context. The results from documents studies of the problems lead to the review of learning theories and learning approaches in order to enhance the English critical reading ability of the students at the undergraduate level in Cambodia. As a result, two learning approaches, WebQuest Learning Approach and Reflective Practice, are integrated as an instructional model. WebQuest Learning Approach is a constructivist inquiry-based learning approach, which is rooted from the work of [Dodge \(1995\)](#) in using online information as learning resources ([Aydin, 2015](#); [Dodge, 1995, 2001](#); [Feng & Hannafin, 2008](#); [Khodary & AbdAllah, 2014](#); [Kleemans et al., 2011](#); [Kocoglu, 2010](#); [Spanfelner, 2000](#); [Subramaniam, 2012](#); [Yang, 2014](#)). Based on constructivism, scaffolding, collaborative learning and inquiry learning, the purpose of the WebQuest Learning Approach is to facilitate teacher to integrate technology into classroom since new technologies are great with ideas and concepts in exciting, enjoyable, and efficient ways in order to provoke students to think critically about what they have learned ([Alessi & Trollip, 2001](#); [Bitter & Legacy, 2007](#); [Dodge, 1995, 2001](#); [Geisert & Futrell, 1999](#); [Greer, 2001](#); [Jonassen, 2000](#); [Vidoni & Maddux, 2002](#)). Reflective Practice is grounded from reflection theory and experiential learning [Schön \(1987\)](#). It

is an approach to develop a great level of self-awareness about the nature and impact of one's performance and awareness that creates opportunities for professional development. Moreover, Reflective Practice reframes the problem for different views and analyzing the consequence and performance for better knowledge from experience by using reflection as essential rational, problem-solving as means of learning rooted in cognitive psychology, with its emphasis on critical thinking (Leigh, 2016; Loughran, 2002; Osterman & Kottkamp, 1993).

Secondly, research synthesizes learning principles from WebQuest Learning Approach and Reflective Practice, then researcher systematically develops the principles of the instructional model, learning steps and lesson plans of the instructional model using the principles of each learning approach. Then, researcher validate the newly developed instructional model by 5 experts and pilot in the authentic classroom. Next, researcher improves the instructional model using experts' comments and results from pilot study in order to make the model more effective.

Finally, researcher implemented in authentic classroom in order to study the effectiveness of the instructional model the instructional model with 11 second-year undergraduate students, who were purposively selected from the Faculty of Language, Arts and Humanities, at selected University in Phnom Penh, Cambodia, and studied English as a foreign language.

To sum up, the instructional model integrating WebQuest Learning Approach and Reflective Practice aims to enhance English critical reading ability of undergraduate students in Cambodia. This model consists of 5 steps: 1) Generating skepticism, 2) Assigning the Quest, 3) Exploring the Quest, 4) Reflecting the Quest, and 5) Concluding the Quest. Related documents of the instructional model are: lesson plans and instructional manual. This model consists of two types of assessments using 1) the English critical reading ability test for before and after assessment, and 2) reflective journal and students' tasks for on-process assessment.

2.2. The effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability

As presented in the findings, the students' statistically significant improvement in their critical reading ability could be seen as an indicator of the effectiveness of the implication of the instructional model. Discussion on the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice are presented based on: 1) results of the English critical reading ability test, 2) grounded theories and learning principle of the model, and 3) Pedagogical implication of the instructional model.

2.2.1. Results of the English critical reading ability test

According to 1) the posttest of the English critical reading ability of the students learning with the instructional model is significantly higher than the pretest at the level of .05, and 2) the posttest of each components of the English critical reading ability of the students learning with the instructional model is significantly higher than the pretest at the level of .05. The result corresponds with the research finding of using WebQuest on enhancing English as foreign language reading comprehension skills and cultural awareness of experimental secondary school students conducted by [Ali \(2015\)](#), which showed the students' overall reading comprehension skills were improved through using WebQuest. This research finding is also correspond to [Luu Trong \(2011\)](#) in teaching English as a foreign language students with WebQuest. The results from his research showed that the pretest and posttest score were significantly improved. The effectiveness of the instructional model results from two factors, namely grounded theories of WebQuest Learning Approach and Reflective Practice, designed learning activities of the instructional model.

2.2.2. Grounded theories and learning principles of the model

Firstly, inquiry learning in WebQuest Learning Approach provides students opportunities to exposed with various resources which required high-order thinking to filter out information. This correspond with what several scholars have previously claimed. For instance, in a study of implementing inquiry-oriented learning for better reading, [Royer and Richards \(2005\)](#) explained that inquiry learning helps students to

search for a link of question until the end of the question. During the searching for information, the students have to read and understand most of the information in each section, and to evaluation what they are reading as well. In knowledge building community, [Jianwei and Yanqing \(2011\)](#) emphasized the roles of inquiry learning in encourages student in using high-order decision-making about the knowledge goals and long-range planning, and progress evaluation. The inquiry learning also co-constructs and refines problem of understanding. Another findings by [Khodary and AbdAllah \(2014\)](#), WebQuest approach implementation at a college of education was successful in developing critical reading achievement. This is to say, the students achieved a significant improvement in their critical reading through their inquiry learning as it provided them with all the resources and guidance to collect, analyze and synthesize information sourced from websites to develop their critical reading achievement. In addition, [Ahmed \(2016\)](#) also reported on the students' critical reading significant results through the inquiry authentic information which were useful for the performance of critical reading.

The second keystone of the grounded theories of this instructional model is the Reflective Practice, which mean students' reflection on their learning help them to identify their learning problems. Depend on the student's ability to make sense of the learning situation, the student have to choose what aspects of the learning situation to attend to, and interpret it as future learning development framework ([Greenwood, 1993](#)). In addition, [Schon \(1983\)](#) further suggests two elements: reflection-in-action and reflection-on-action. Reflection-in-action refers to think what one is doing. This mean student tries to make sense of the situation that they are working with, then the students conduct self-questioning about what they are currently do. In contrast, reflection-on-action requires the students to looks back on their experiences to explore again the understanding they brought to hem in the light of their outcomes.

The significant results of this model were the assigned task for the students to conduct their inquiries. The tasks functioned as a long-continued learning pathway for the students to explore in order to apply their critical thinking and problem-solving skills. It shared the same basis with the early design of Webquest which emphasized on the learning tasks as the most important steps that allowed students to exposed to a

specific, open-ended activities for them to discuss and search (Dodge, 2001). Moreover, the tasks in this instructional model were not far beyond the students' ability, yet required several steps to accomplish. This also corresponds to what (Schweizer & Kossow, 2007) claimed that the tasks feature an activity that is considered as doable and realistic. In addition, it should not be solved through a single and simple solution.

Finally, the English critical reading ability test indicated that the critical reading of the students who studied with this model was significantly higher comparing to their pretest. Another reason for obtaining better results might have been that critical reading activities provided during reading ability. This could have triggered a sense of engagement and enjoyment of the class activities. It was necessary that teacher should encourage students to participate in using higher level thinking during reading. It is evident that all the skills needed for the critical reading should be in the great contact.

3. Recommendations

The research entitled "Development of an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia", researcher points two recommendations: pedagogical implication of the instructional model, recommendations for the implementation of the research findings and the recommendations for further research.

3.1. Pedagogical implications of the instructional model

The research finding suggest the following implication for teachers who teach with the instructional model integrating WebQuest Learning Approach and Reflective Practice as follows:

1. The finding showed that the instructional model integrating WebQuest Learning Approach and Reflective Practice provided appropriate enhancement in English critical reading ability for students who learn English as foreign language. Since the design of the instructional model was based on various platforms of learning resources and well-organized learning activities, teachers should give more thoughts

to conducting a well-prepared and well-design lesson plan and learning activities so that the model could respond the needs of the students in the classroom.

2. According the finding of the learning steps of the instructional model, teachers should be aware of students' previous knowledge about the learning topic, and be flexible in generating students' skepticism which help to enhance students' interest and participation during the instruction.

3. Concerning levels of proficiency, the findings of this study suggested that the instructional model integrating WebQuest Learning Approach and Reflective Practice were effective to intermediate students with English as a foreign language. Slow and inexperienced in both content knowledge and technology skills would be given multiple supports and encouragement. So, students are able to work on the same pace during teaching and learning with this model.

4. This instructional model is designed using online information as learning resources. Thus, for the great effectiveness of the implication of this model, teacher should conduct a preliminary study to investigate the learning differences among students in language proficiency and basic skill in using technologies.

5. Majority of learning resources in this instructional model are online. Therefore, teacher has to carefully study each online resource before providing to the class. Moreover, teacher should constantly update the online resources' availability or check for any broken link.

6. Learning activities in this instructional model involves with searching online information. In addition, each step in this model has its own key feature, and every step in this model are related. Therefore, it is advisable for teacher to carefully allocate time to learning activities.

7. During teaching and learning, especially during the exploration, teacher should facilitate the class by walking around to provide technical support and asking critical questions to check for students' understanding. Moreover, teacher should observe learning behavior of each student during the instruction.

3.2. Recommendations for further research

Since the present study was subject to some limitations, the following recommendations are proposed for further research as follows:

1. In this pre-experiment research, the researcher used only one-group only by administering the English critical reading ability test as the research instrument. This further future investigate should be designed using other design, namely control-group pretest posttest design, in order to get a rigid evidence of the effectiveness of the integrated instruction.
2. The sample were limited number in this research. As recommendation, future research should be conducted on a larger scale classroom to prevent the drop-out of the samples during implementing of the instructional model.
3. This research study focused on the extent to which the instructional model improved the students' critical reading ability. Further research should be carried out to explore the extent to which this model improves other language skills, since this instructional model.
4. In the future research, it is advisable to study the effectiveness of the instructional model integrating WebQuest Learning Approach and Reflective Practice in other aspect, namely students' attitude toward the implementation of the instructional model or English critical reading ability retention after learning with this instructional model.

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APPENDIX



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APPENDIX A

LIST OF EXPERTS

The research instruments of the research entitled “Development of an instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia” were the instructional model, sample lesson plan, and the English critical reading ability test.

List of experts for the instructional model

1. Assistant Professor Banjert Chongapiratanakul, Ph.D.
Rajapruk University
2. Assistant Professor Pratoom Sriruksa, Ph.D.
Thepsatri Rajabhat University
3. 3. Dr. Kanya Kongsoongnoen
Director of Language Center, TRU
4. Associate Professor Jittawee Khlaisang, Ph.D.
Chulalongkorn University
5. Assistant Professor Maneerat Ekkayokkaya, Ph.D.
Chulalongkorn University

List of experts for the research instrument

1. Associate Professor Jaraswat Trairat, Ph.D.
Sukhothai Thammathirat Open University
2. Assistant Professor Suphawat Pookchareon, Ph.D.
Thammasat University
3. Dr. Nunthika Puthikanon
Thammasat University
4. Dr. Karnchanoke Wattanasin
King Mongkut’s University of Technology Thonburi
5. Assistant Professor Apasara Chinwonno, Ph.D.
Chulalongkorn University

APPENDIX B

INSTRUCTIONAL MANUAL OF THE MODEL

This instructional manual is designed to accompany the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students aims to provide interested teachers with the needed details concerning the model. Therefore, it is advisable for the teacher to study all the necessary details in terms of instructional model and instructional manual of the model.

Related documents of the instructional model

1. The instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students in Cambodia comprises of principles, objectives, learning steps, and assessment and evaluation.
2. The instructional manual of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students comprises of learning steps, learning contents, and lesson plans.

Things to study

1. It is advisable for interested teachers to have a clear understanding of the instructional model integrating WebQuest Learning Approach and Reflective Practice to enhance English critical reading ability of undergraduate students before the implementation.
2. Before-process evaluation should be conducted before the implementation of the model. It is advisable for the teacher to use English critical reading ability test, which contains 30 test items with 90 time allowed, in order to evaluate English critical reading ability of the students.
3. The teacher implements the instructional model integrating WebQuest Learning Approach and Reflective Practice into classroom using the designed lesson plans. There are eight lesson plans in this instructional model, each of which lasts

three hours, covering the period of eight weeks. Each lesson plan is designed on the basis of the instructional model, and shares the same format: unite title, students' level, duration, objectives, learning content, and materials. It is also advisable for the teacher to be well-prepared and well-designed for content and materials as suggested so as achieve the desired goal of the model.

4. On-process evaluation can be conducted during each lesson plan. The teacher is recommended to use teacher's field note, students' tasks, and students' reflective journal to evaluation students' English critical reading ability development.

5. After-process evaluation should be conducted in the last session of the implementation of the model. The teacher is able to administer English critical reading ability test, which contains 30 test items with 90 time allowed, in order to evaluate English critical reading ability of the students.

| Week | Unit |
|-------------|---|
| 1 | Pre-test (English critical reading ability test) |
| 2 | The Old Man and the Sea (Introduction) |
| 3 | The Old Man and the Sea 1, 2 & 3 |
| 4 | The Old Man and the Sea 4, 5 & 6 |
| 5 | The Old Man and the Sea 7, 8 & 9 |
| 6 | Oliver Twist (Introduction) |
| 7 | Oliver Twist Chapter (1–5) |
| 8 | Oliver Twist Chapter (6–10) |
| 9 | Oliver Twist Chapter (10–14) |
| 10 | Post-test (English critical reading ability test) |

This is the end of Appendix B.

APPENDIX C
LESSON PLAN

UNIT—1

| | |
|--------------------------|--|
| Title | The Old Man and the Sea (Introduction) |
| Student's Level | Year 2, Semester 2 (EFL) |
| Duration | 180 minutes (2 Sessions) |
| Objective | At the end of the lesson, Ss will be able to: - Identify characters in the story - Simplify the general theme of the story |
| Learning Contents | The Old Man and the Sea |
| Materials | Whiteboard or blackboard / Short passage of the Old Man and the Sea / Internet access / Visualizer |

STEP 1. GENERATING SKEPTICISM (30 mins)

1.1. Introducing a new topic T starts the lesson by asking some questions related to various literature stories, folk tales, etc.

- *Do you know any Khmer literatures or folk tales?*
- *Have you ever read any Khmer literatures or folk tales?*
- *Could you name any Khmer literatures?*

Ss try thinking about any name of Khmer literature or folk talk that they have read before. Then, T randomly pick one or two Ss or or ask for any volunteer to answer.

After getting some answers from Ss, T asks the same questions about English literatures. As before, T allows Ss to think about their previous experiences with English literature.

- *Does anyone know any name of English literature?*
- *Could you name any English literature?*
- *Have you ever read / heard about “the Old Man and the Sea?”*

T introduces the main objectives of the lesson.

- *Today, we are going to learn about the introduction of the Old Man and the Sea...*

1.2. Creating Skepticism

By telling the title of the story, T asks Ss questions related to the story including the author, the theme of the story, etc.

- *Do you know who wrote the story the Old Man and the Sea?"*
- *Do you know what the Old Man and the Sea is about?*
- *What could you infer from the story, the Old Man and the Sea?*

STEP 2. ASSIGNING THE QUEST (30 mins)

2.1. Introducing the Quest

T introduces the Quest to Ss.

Your task is: 1) to conduct a search for the summary and identify characters in the story “the Old Man and the Sea” and characters 2) to choose an online source and explain the research to choose the source, and 3) to present about your group discussion to the rest of the class.

T provides related sources for Ss to do research including the individual task (handout 1.1) and list of Website (handout 1.2). T also provides an evaluation sheet for Ss to evaluate their task (handout 1.3) and resources evaluation form (handout 1.4).

2.2. Stimulating schema

T asks Ss to form a small group in order to stimulate Ss’ understanding about what they are going to do. Ss share to each other about their previous experiences. S takes note about their discussion.

T provides helps and supports by generating questions as follows:

- *In the title word “the Old Man and the Sea”, what kind of clue that help you to guess what the story is about?*
- *Is it possible if the author of the story provides the literal meaning of the story as the title?*

- *Are there any stories which has the same title as this story but in other language, or in Khmer?*

2.3. Reflecting for solutions

In the same group, T asks Ss to help each other to think and draft their plan about some possible ways to answer (solve) the Quest. T provides help to Ss during Ss' discussion.

T might ask:

- *What should be the possible way to seek for the answer?*
- *Where can you find the plot summary?*
- *Do you believe in what they (the online sources) write?*
- *How does evaluation sheet help with your exploration?*

Ss help each other to briefly write down their plans, process in inquiring information, related skills, etc.

STEP 3. EXPLORING THE QUEST (85 mins)

3.1. The exploration

Ss work in small group to complete the Quest. Ss help group member to divide the Quest into small tasks (e.g. searching for the plots summary and the complete summary of the story from many sources, Ss might use other additional sources of their own, Ss use the evaluation sheet for their website, comparing and evaluating the sources of information, etc.). Ss manage their own group task and take role in complete each task.

While searching each task, Ss conduct an evaluation of about the reading materials, website, etc. using evaluation sheet given. (handout 1.4)

T controls the entire class during Ss' learning. T provides supports to Ss by asking some critical questions.

- *What do you think about your information?*
- *How do you know that the author in this passage has no any bias about his/her writing?*
- *Do you have any proof for this fact?*

- *Are any evidences of what you are searching?*
- *Do you use evaluation sheets to help with your evaluation?*

3.2. Showtime

In each group, Ss conclude and finalize their tasks for the complete Quest. Ss help each other to create PowerPoint.

T limits time for Ss creating presentation. Then, Ss present about their Quest to the rest of the class. T observes and evaluates Ss' presentations.

STEP 4. REFLECTING THE QUEST (20 mins)

After all the groups are done, T and Ss point out some common mistakes (e.g. weakness, strength, learning process, etc.) often found in their exploration of the tasks. T and Ss have interactional feedback.

Ss share expected better learning outcome from their reflection on their previous Exploration step.

STEP 5. CONCLUDING THE QUEST (20 mins)

Wrap-up

Ss take turn in sharing what they have learnt about the general theme of the story “the Old Man and the Sea” and the characters in the story.

T concludes what Ss have learned according to the learning objective.

T assigns Ss to write reflective journal (handout 1.5) as next session homework.

This is the end of lesson plan 1.

Handout 1.1—The QuestStudent ID: **Task—1**

Write the name of five characters with their roles in the story and describe their appearances and characteristic.

Character Name Roles in the story “The Old Man and the Sea”

| | |
|----------|--|
| 1. _____ | |
| 2. _____ | |
| 3. _____ | |
| 4. _____ | |
| 5. _____ | |

Task—2

Briefly write the general them of the story in the space provided below.

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This is the end of handout 1.1.

Handout 1.2—Resources ListStudent ID:

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

https://en.wikipedia.org/wiki/The_Old_Man_and_the_Sea

<http://www.sparknotes.com/lit/oldman/>

<http://www.sparknotes.com/lit/oldman/summary.html>

https://la.utexas.edu/users/jmciver/Honors/Fiction%202013/Hemmingway_The%20Old%20Man%20and%20the%20Sea_1952.pdf

<http://mentalfloss.com/article/64363/11-facts-about-hemingways-old-man-and-sea>

<https://www.cliffsnotes.com/literature/o/the-old-man-and-the-sea/about-the-old-man-and-the-sea>

<https://www.shmoop.com/old-man-the-sea/summary.html>

<https://www.youtube.com/watch?v=W5ih1IRIRxI>

<https://www.youtube.com/watch?v=ntOU3RKsBxI>

<http://www.gradesaver.com/the-old-man-and-the-sea/study-guide/summary-pages-1-18>

<https://www.litcharts.com/lit/the-old-man-and-the-sea/summary>

<https://www.cliffsnotes.com/literature/o/the-old-man-and-the-sea/character-list>

<http://www.gradesaver.com/the-old-man-and-the-sea/study-guide/character-list>

<http://study.com/academy/lesson/the-old-man-and-the-sea-summary-characters-themes.html>

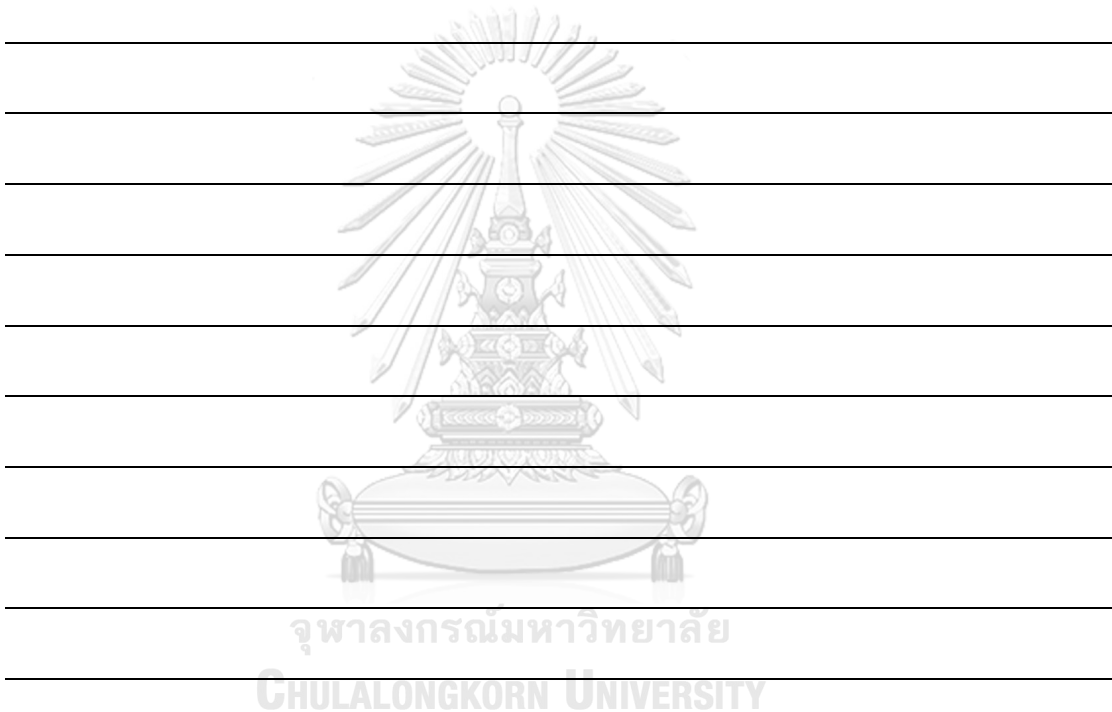


This is the end of handout 1.2.

Handout 1.3—Reflective Journal

Student ID:

Direction: Please write a short paragraph of your personal reflection toward your learning aspects (e.g. your response to experiences, your response to thought and feelings, a way of thinking to explore your learning an opportunity to gain self-knowledge, a way to achieve clarity and better understanding of what you are learning, a chance to develop and reinforce reading skills, or way of making meaning out of war you study).



This is the end of handout 1.3.

APPENDIX D

SAMPLE OF THE ENGLISH CRITICAL READING ABILITY TEST

Student ID _____

Duration: 90 minutes

Total Score: ____/45 Points

PART 1. SITUATIONS (Sample only)

There are 4 different situations in this part, each of which is followed by questions based on its content. Please read carefully and answer the questions on the basis of what is stated or implied in each situation and in any introductory material that may be provided.

Questions 9-12 are based on this products labels below.

| | | | |
|--|--------------------|---|--------------------|
| 1 | Information | 2 | Information |
| Active Ingredient Paracetamol (500 mg) ... Symptomatic relief Chlorpheniramine Maleate (2 mg) Phnylephrine HCL (10 mg) | | Core Ingredient 500mg of Paracetamol | |
| Purpose Use common cold associated with nasal congestion, running nose, sneezing, headache and fever | | Use when indication of pain, headache, migraine, toothache, fever in infectious and inflammatory diseases | |
| Warnings <ul style="list-style-type: none">■ Consult with doctor about paracetamol dosage during pregnancy and lactation (breastfeeding)■ do not use if printed safety seal is broken or after the expire date | | Directions <ul style="list-style-type: none">■ Adult over 60kg use a single does of 500 mg of Paracetamol, up to 4 times/day■ Children 6-12 years use 250-500mg of Paracetamol, up to 4 times/day | |
| Ask a doctor if irritation and redness develop | | Caution <ul style="list-style-type: none">■ Check the expire date before use■ Do not use if safety seal is broken or missing■ Consult doctor before using during pregnancy | |
| Directions Adults (1-2 tablets) every 4-6 hours Children 6-12 years (1 tablet) every 4-6 hours | | | |

9. The above information can be found on labels from _____
- some grocery products.
 - a vehicle manual.
 - some drug containers.
 - some meat products

10. What is the main purpose of the two pieces of information above?
- _____

11. The phrase “Ask a doctor if irritation and redness develop” can be inferred as _____
- This product is very irritating.
 - The doctor has developed irritation.
 - This product causes only irritation and redness.
 - This product might not applicable to some people
12. Suppose you are 25 years old and weight 70 Kg, what dosage of Paracetamol should you use in a 24 hours period?
- less than 500 mg
 - between 500-1000 mg
 - not more than 2000 mg
 - more than 2500 mg



PART 2. SHORT READINGS (Sample only)

There are 3 short passages in this part. Each passage is followed by questions based on its content. Please read carefully and answer the questions on the basis of what is stated or implied in the passage and in any introductory material that may be provided.

Questions 13-17 are based on these search results.

The screenshot shows a search engine interface with the following results:

| Search | benefits of drinking coffee |
|---|--|
| Search result: 1 Rating: 4.5 138420 votes | Health Benefits and Disadvantages of Coffee (Smashing it ... www.healthscience.com/.../12-health-benefits-and-6-disadvantages-of-coffee-smashin... By: Dr. William J. John Coffee boosts your physical performance. A cup of black coffee about an hour before workout and your performance can improve by 11-12%. According to my experience, coffee may help you lose weight. Drinking 1-6 cups a day helps you focus and improves your mental alertness...coffee lowers risk of death...Bad coffee can be toxic or can cause sickness, headache or a general bad feeling... Caffeine can also contribute to heartburn.... if you drink coffee when pregnant, your baby is highly sensitive to caffeine... |
| Search result: 2 Rating: 1.2 9822 votes | 7 Negative Side Effects of Coffee www.michaeljones.blogspot.com/Why-I-do-not-drink-coffee... By: Michael Jones (Daily Blogger) Coffee is one of the most poisonous drink on earth. Whenever I drinking coffee on an empty stomach lead me to digest problemmany of the compounds in coffee like caffeine and the various acids found in coffee beans can irritate your stomach....I love Coke even it has high caffeineHeavy coffee drinkers may have difficulty getting enough minerals in their diet, even if they eat mineral rich foods or take supplements...I would recommend everyone not to drink coffee... |
| Search Result: 3 Rating: 4.9 545202 votes | Drinking Coffee: More Good Than Harm ? - Medical News Today www.medicalnews.com/artides-research-on-coffee/247583.php By: Dr. Susan A. Smith (Head of Food Laboratory) Jul 9, 2016 - Harvard Study 2015 examined data on over 130,000 participants on daily drinking coffee for about 20 years... up to 6 cups of coffee per day was not linked with increased deaths from any cause in either men or women... prevent from common type of skin cancer cause by basal cell carcinoma... In 2014, researchers in Finland and Sweden ... 1,400 people over 20 years.... drank 3 to 5 cups of coffee a day in their midlife years had a 65% lower chance of developing dementia and Alzheimer's disease However, pregnant women are advised not to drink too much coffee.... |

13. The phrase “your baby is highly sensitive to caffeine” in “search result 1” can be inferred that
- drinking coffee is a good idea during pregnancy.
 - baby needs caffeine to be more sensitive.
 - it is very common to drink coffee when pregnant.
 - coffee could have some drawbacks during pregnancy.
14. Which search result would be the most reliable? Why?
-

15. All of the following statements are TRUE about coffee, EXCEPT that ____
- coffee contains various kinds of acids.
 - drinking less than 6 cups of coffee per day has been shown to be good for health.
 - drinking coffee helps to increase basal cell carcinoma.
 - drinking only a cup of coffee can boost physical performance.
16. Based on the three search results above, do you think drinking coffee is good or bad? Why?
-
17. Who would you recommend these articles to? Why?
-

PART 3. LONG READING (Sample only)

The passage below is followed by questions based on its content. Read carefully and answer the questions on the basis of what is in the passages and in any introductory material that may be provided.

Questions 24-30 are based on this passage.

- Knowledge is one thing, virtue is another; good sense is not conscience, refinement is not humility, nor is largeness and justness of view faith. Philosophy, however enlightened, however profound, gives no command over the passions, no influential motives, no *vivifying* principles. Liberal Education makes not the Christian, not the Catholic, but the gentleman. It is well to be a gentleman, it is well to have a cultivated intellect, a delicate taste, a candid, equitable, dispassionate mind, a noble and courteous bearing in the conduct of life—these are the connatural qualities of a large knowledge; they are the objects of a University; I am advocating, I shall illustrate and insist upon them; but still, I repeat, they are no guarantee for sanctity or even for conscientiousness, they may attach to the man of the world, to the profligate, to the heartless, pleasant, alas, and attractive as he shows when decked out in them. Taken by themselves, they do but seem to be what they are not; they look like virtue at a distance, but they are detected by close observers, and on the long run; and hence it is that they are popularly accused of pretense and hypocrisy, not, *I repeat*, from their own fault, but because their professors and their admirers persist in taking them for what they are not, and are officious in arrogating for them a praise to which they have no claim. Quarry the granite rock with razors, or moor the vessel with a thread of silk; then may you hope with such keen and delicate instruments as human knowledge and human reason to contend against those giants, the passion and the pride of man.

above passage is taken from an article concerning Knowledge and Virtue Source: adapted from Davenport, T. R. (2007). Mastering the SAT Critical Reading Test: Cliffs Notes.

24. In your word, what is the best explanation of the word “vivifying” as used in line (4)?
- cohesive
 - live-giving
 - validating
 - universal
25. What does the author mean by saying “I repeat” in line (16)?
-
26. The overall purpose of this passage is _____
- to convince the reader that knowledge can be virtuous if reasonably applied.
 - to evidence that virtue is a trait often extended following training in the University.
 - to present a real and observable difference between knowledge and virtue.
 - to show the how application of knowledge is affected when virtue is overriding.
27. Which statement best describes the author’s values as they relate to knowledge and virtue?
- Knowledge creates the necessity of virtue.
 - Knowledge is man-made and virtue is created by God.
 - Knowledge cannot presume to extend virtue.
 - Knowledge is apparent through refinement.
28. The author’s purpose in using the phrases “Quarry the granite rock with razors” and “moor the vessel with a thread of silk” in line (15-16) is _____
- to describe the similarities between virtue and knowledge.
 - to show the differences between virtue and knowledge.
 - to explain the virtue and the knowledge.
 - to create some abstract philosophical representations.
29. From the reading text, it can be concluded that _____
- Although knowledge is great, virtue is of greater value.
 - While knowledge is of greatest importance, virtue is of necessity in a university.
 - The value of virtue is superior value.
 - Virtue is a much-desired attribute.
30. In your own word, what should be the best topic of this passage?
-

This is the end of Appendix D.

APPENDIX E
RESULTS OF INSTRUMENT VALIDATION

Results of data analysis of Difficulty index (P), Discrimination index (r) and coefficient of English critical reading ability test

| Item | Aspect of evaluation | (P) | (r) | Item | Aspect of evaluation | (P) | (r) |
|------|----------------------|------|------|------|----------------------|------|------|
| 1 | inference | 0.72 | 0.45 | 16 | conclusion | 0.47 | 0.50 |
| 2 | inference | 0.58 | 0.50 | 17 | conclusion | 0.57 | 0.50 |
| 3 | evaluation | 0.43 | 0.50 | 18 | inference | 0.52 | 0.50 |
| 4 | evaluation | 0.50 | 0.50 | 19 | conclusion | 0.20 | 0.40 |
| 5 | conclusion | 0.22 | 0.42 | 20 | conclusion | 0.30 | 0.46 |
| 6 | inference | 0.72 | 0.46 | 21 | inference | 0.47 | 0.50 |
| 7 | evaluation | 0.65 | 0.48 | 22 | evaluation | 0.53 | 0.50 |
| 8 | conclusion | 0.42 | 0.50 | 23 | conclusion | 0.27 | 0.45 |
| 9 | inference | 0.63 | 0.49 | 24 | inference | 0.25 | 0.44 |
| 10 | evaluation | 0.48 | 0.50 | 25 | inference | 0.23 | 0.43 |
| 11 | inference | 0.53 | 0.50 | 26 | evaluation | 0.22 | 0.42 |
| 12 | conclusion | 0.50 | 0.50 | 27 | evaluation | 0.20 | 0.40 |
| 13 | inference | 0.52 | 0.50 | 28 | evaluation | 0.27 | 0.45 |
| 14 | evaluation | 0.55 | 0.50 | 29 | conclusion | 0.22 | 0.42 |
| 15 | evaluation | 0.33 | 0.48 | 30 | conclusion | 0.25 | 0.44 |

| Difficult Level | Test items of the English critical reading ability test |
|-----------------|---|
| Easy | 1, 6, 7, 9 |
| Moderate | 2, 3, 4, 8, 10, 11, 12, 13, 14, 16, 17, 18, 21, 22 |
| Difficult | 5, 15, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30 |

This is the end of Appendix E.

VITA

Chanchhaya Chhouk completed his Ph.D. in Curriculum and Instruction at Chulalongkorn University. His research interests lie in the area of instructional design, ranging from theory to design to implementation. In recent years, he has focused on better techniques for expressing, analyzing, and executing web-based instruction. Also, he has participated with adult education with Professor John A. Henschke at Lindenwood University, Missouri, United States.

