



**DEVELOPING ENGLISH READING MATERIALS TO
PROMOTE CRITICAL THINKING SKILLS FOR
MYANMAR UPPER SECONDARY STUDENTS:
RESEARCHERS' AND PRACTITIONERS'
COLLABORATION**

PYAE PHYO

**DOCTOR OF PHILOSOPHY
IN
ENGLISH FOR PROFESSIONAL DEVELOPMENT**

**SCHOOL OF LIBERAL ARTS
MAE FAH LUANG UNIVERSITY**

2025

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**THIS DISSERTATION IS A PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
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Dissertation Title: Developing English Reading Materials to Promote Critical Thinking Skills for Myanmar Upper Secondary Students: Researchers' and Practitioners' Collaboration

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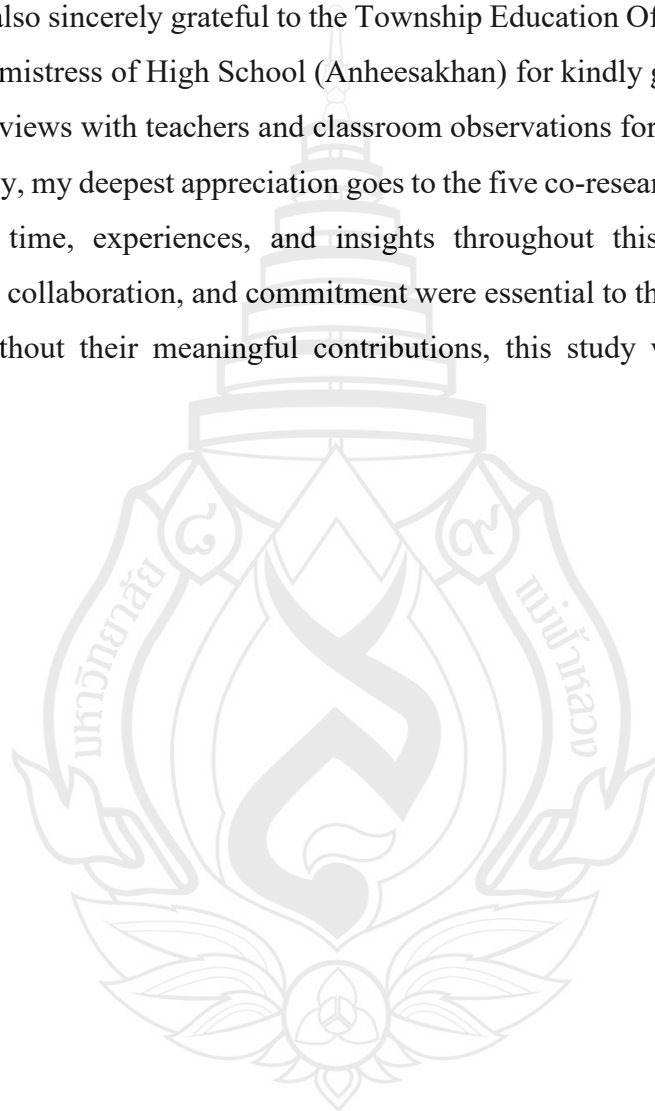
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Pyae Phyoe



Dissertation Title	Developing English Reading Materials to Promote Critical Thinking Skills for Myanmar Upper Secondary Students: Researchers' and Practitioners' Collaboration
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ABSTRACT

Critical thinking (CT) has been widely recognized as a crucial aspect of 21st-century education policies. Recognizing its significance, Myanmar's recent educational reforms emphasized the integration of CT into its new education system, K+12, with its explicit statement in the National Education Law (2014), and the National Education Strategic Plan (2016-2021). However, the current state of CT in the extant English coursebooks remains underexplored. Addressing this gap, this study adopted Research and Development (R&D) (1) to investigate the current state of CT (2) to develop a critical thinking program for EFL upper secondary school students through researcher-practitioner collaboration and (3) to study the affordances and challenges of implementing the critical thinking program. Guided by Macalister and Nation's (2020) framework for Language Curriculum Design, this three-phased study revealed that the reading materials of the extant English coursebooks were dominated by lower-order thinking skills (LOTS) over higher-order thinking skills, encouraging rote learning practice, and providing limited opportunities for CT development. Despite the modest increase in CT in the selected post-reform books, the alignment between the policy and the practice remains partial. The three collaborative workshops with five in-service EFL teachers generated a critical thinking program consisting of five components: (1) contextual, (2) conceptual, (3) material, (4) pedagogical, and (5) task-related ones. Instead of adding only CT-based questions, the program embedded CT within institutional feasibility, shared conceptual understanding, cognitively accessible materials, scaffolded progression from LOTS to HOTS, and revised task structures

aligned with textbook formats, showing that critical thinking integration needs a systemic and contextual alignment rather than task modification only. The final phase reported that the affordances are high usability and practicality of the developed materials, the enhancement of students' engagement and motivation, and the promotion of critical thinking skills of students. Despite the affordances, challenges such as the language barrier and minor students' initial resistance to the critical thinking-based tasks were exposed. The findings of this study extend the existing literature, showing that developing critical thinking is not an immediate pedagogical outcome but a gradual, scaffolded process requiring learners' adjustment and sustained pedagogical support of teachers. Students' resistance represents a cognitive transition rather than a failure of reform. The study therefore contributes theoretically by proposing a bottom-up, researcher-practitioner collaborative model for critical thinking material development in centralized and institutionally constrained contexts. In addition, it also provides the empirical evidence that collaborative design can bridge not only the gap between policy and practice but also the gap between research and practice, empowering teachers as co-researchers and co-designers and active agents of sustainable educational reform rather than passive implementors.

Keywords: Critical Thinking, Education Reforms, Materials Development, PAR, Researchers' and Practitioners' Collaboration

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The 21st century, a new age of rapid advancements and swift changes, presents great opportunities, challenges, and competition to individuals across various sectors, seeking well-developed thinking skills beyond literacy and demanding ever higher levels of expert thinking and complex communication (Trilling & Fadel, 2012). Only individuals possessing such high intellectual skills can successfully navigate the challenges and overcome the struggles of the 21st century (Wicaksono et al., 2024). Among those skills, critical thinking stands out as the foundation of 21st-century learning. Students, born in the 21st century, must learn to think critically about what they read, hear, and see, rather than passively receiving it. Critical thinking skills refer to the ability to analyze, synthesize, and evaluate information in daily life and to reach sound conclusions based on observations and information (Paul, 1988). Developing the critical thinking of students has become an important dimension of 21st-century learning and the primary duty of educators (Duron et al., 2006; Yuliana & Tungka, 2018).

Given its significance in general education, the prominence of critical thinking skills in ESL/EFL education has been increasing (Liang, 2020). Empirical studies reported that integration of critical thinking skills into ESL/EFL curriculum positively contributes to learners as it facilitates language acquisition, enhances language proficiency, expands language skills beyond memorization, motivates students to take risks and helps learners generate critical ideas in productive skills (Rao, 2007; Liaw, 2007; Gibson, 2012; Wu, Marek & Chen, 2013; Wang & Henderson, 2014; Sanavi & Tarighat, 2014; Liang, 2020; Liang & Fung, 2020). In integrating critical thinking skills in the four skills of English, the correlation between reading and critical thinking is close, as reading is more than decoding the information in the texts. Reading includes higher-order thinking skills such as analysis, evaluation, and synthesis of the reading

texts. Therefore, critical thinking skills in this study mean the abilities of students to analyze, evaluate, and synthesize the information provided in the reading texts.

In terms of teaching critical thinking skills, there is an ongoing debate on their teachability, particularly in Asian or non-Western contexts (Lin, 2014). Some scholars, including Atkinson (1997) and William (2008) expressed their doubts on the feasibility of teaching of critical thinking in the Asian context, arguing most easterners prefer living in collectivism (Kwang, 2001; Tung & Chang, 2009). However, empirical studies in various Asian contexts have supported the fact that integrating critical thinking skills into the curriculum is feasible, and teaching critical thinking through English reading materials is one of the most effective methods (Angeli & Valnides, 2009; Lin, 2014; Ilyas, 2015; Solihati & Hikmat, 2018). This approach overlaps with the infusion method, which integrates critical thinking skills into school-subject content (Ennis, 1992). Lipman (1988) echoes the viewpoint that reading instructions should be accompanied by instructions for critical thinking, despite not being explicitly addressed.

Recognizing the eminence of critical thinking skills in global general education and EFL/ESL education, policymakers and educators in Myanmar commenced an education reform to advance its system, to address the need to meet the global standard of education and the lifelong learning and professional desires of Myanmar students (NESP, 2016). Myanmar announced the 10-point education reform, the Comprehensive Education Sector Review (CESR), and the National Education Sector Plan (NESP), which was later changed into the National Education Strategic Plan (NESP, 2016–2021) (Lall, 2021). The NESP (2016–2021) introduced a Kindergarten through Grade 12 (K+12) system, aligning its structure with international basic education models. The reforms explicitly mentioned the integration of critical thinking skills (C3) along with collaboration (C1), communication (C2), creativity and innovation (C4), and citizenship (C5), which are all together described as 5Cs of the 21st century. (Ministry of Education, 2021). The education reform redesigned and launched new learning materials for the basic education level, integrating those 5Cs into each lesson of the extant materials in different disciplines (Ministry of Education, 2025). The Department of Education Research, Planning, and Training (DERPT), a department of the Myanmar Ministry of Education, was responsible for revising, updating, and publishing the new

basic education curriculum, emphasizing critical thinking skills (C3). On the other hand, Myanmar students are still reported to lack the ability to show or apply critical thinking skills in their academic settings (Morris, 2020). The implementation process of the 21st-century skills also faces many challenges: the domination of rote learning-based learning materials in the classroom, the shortage of proper training for educators in critical thinking, and the decline of support from the international scholastic participants for the education reforms in Myanmar since the 2021 political turmoil (Lall, 2024). As a result, critical thinking fails to transfer from the policy papers to the actual educational practices.

Based on Ilyas' (2015) study, the development of critical thinking skills among students can be hindered by four interdependent factors such as the education system, teachers, methods, and textbooks (Ilyas, 2015). Concerned with the education system, the policymakers in Myanmar have long been manipulating it as an instrument to make their citizens disciplined and obedient, leading to a culture that sees questioning and thinking as critically unacceptable among the different layers of society (Lwin, 2010; Allen, 2018). Myanmar students are not expected to demonstrate critical thinking skills in class (Lall, 2021). Teachers are also allegedly accused of discouraging students from thinking critically and of heavily relying on textbooks (Lall, 2021). Teachers are considered the source of knowledge, and they normally see the demonstration of critical thinking skills in their class as unacceptable behavior. At the same time, they do not realize what critical thinking is or how to teach it, and they have never had the proper training for critical thinking skills. The teaching method also plays an important role in developing the critical thinking skills of students. Stressing memorization, knowledge acquisition, remembering, and lower-order thinking skills, rote learning has been deeply rooted in the Myanmar education system for many years (Lwin, 2010; San, 2019; Aung, 2022). Different textbooks on different subjects used in Myanmar since its independence focus on rote learning and lower-order thinking skills (Lwin, 2010). The activities and task-based questions EFL textbooks used in Myanmar from 1960 to 2010 were dominated by the lower-order thinking skills (LOTS) and did not encourage the development of critical thinking skills of students (Aung, 2013; Aung, 2015; Soe & Hlaing, 2016). However, the NESP claims that critical thinking and other important 21st-century skills are integrated into the post-reform curriculum (NESP, 2016-2021).

However, no empirical study is available on whether the integration of critical thinking skills into the post-reform coursebooks successfully reflects the statements described in the NESP (2016-2021). Therefore, this study aims to investigate opportunities for critical thinking skills in English coursebooks for upper-secondary students introduced after Myanmar's recent education reforms, with a particular focus on reading sections, and to develop critical thinking-based reading materials.

1.2 Statement of the Problem

Recent research in language education has consistently highlighted the gap between research and actual practice (McKinley, 2019; Rose, 2019; Li & Gao, 2025). Much research has been done on suggesting effective pedagogical approaches. Nevertheless, since researchers and practitioners are working in separate and different areas, the research-informed suggestions often fail to inform practitioners, like teachers, to implement the findings in actual classroom practices. Consequently, recent research has been calling for the collaboration between the researchers and practitioners to narrow the persistent gap between theoretical support and actual practice (Li & Gao, 2025)

Recent papers explicitly emphasize the need to strengthen the nexus between research and practice. Li and Gao (2025) contend that research in language education has been following a one-way direction of imparting knowledge to teachers, and it has been called for reciprocal partnerships where practitioners actively participate in doing research and co-developing pedagogical strategies. Moreover, current efforts in language teacher education increasingly promote collaborative cultures, partnership frameworks, and joint inquiry as mechanisms to bridge the divide between researchers and practitioners. Similarly, McKinley (2019) and Rose (2019) advocate for doing more classroom-based research to make sure that research addresses the actual needs rather than being detached from actual practice.

The existing literature suggests that collaborative researcher-practitioner partnerships can enhance the relevance of educational research, empower teachers as knowledge producers, and promote sustainable professional development (Hosseini et

al., 2024; Bao et al., 2024; Kang & Xia, 2025; Li & Gao, 2025). Studies have suggested diverse patterns of collaboration, such as action research communities and partnership-based curriculum development. These approaches have been shown to dismantle unidirectional knowledge imparting of researchers to practitioners, enhancing innovations that are both theoretically informed and contextually relevant.

Despite these advances, significant gaps remain. Much of the existing literature focuses on collaboration in teacher education programs or professional development contexts, while relatively limited attention has been given to collaborative materials development. Furthermore, while critical thinking has been widely recognized as an essential 21st-century skill. Teaching critical thinking skills, as cited in Lin (2014), has been a trend in the education policies of various countries worldwide, including the UK in 1999, Hong Kong in 2000, Malaysia in 2003, China in 2003, and Indonesia in 2010. Recognizing this emerging global trend, Myanmar introduced a series of education reforms, along with transformations, in the 2010s. While teaching critical thinking skills is highlighted in general education, integrating critical thinking in the L2 context or EFL/ESL/ELT community also gets limited attention among educators, scholars, and researchers (Thompson, 2002; Stapleton, 2001; Ghanizadeh, Al-Hoorie & Jahedizadeh, 2020).

In addition, studies on English reading materials in Myanmar over five decades report that lower-order thinking skills are more frequently demanded than critical thinking skills (Aung, 2013; Aung 2015). Consequently, total reliance on rote learning is prevalent in classrooms, where students are encouraged to memorize facts and discouraged from practicing the components of critical thinking: analyzing, evaluating, synthesizing, questioning, and clarifying. This is in conflict with implementing critical thinking in the classroom. This inconsistency reflects the failure of policy implementation in the actual classroom, rooted in the top-down process, excluding the practitioners. The existing literature hardly examines how researchers and practicing teachers can collaboratively design, refine, and implement reading materials specifically aimed at promoting critical thinking in real classroom settings.

This lack of context-sensitive, collaboratively developed instructional materials represents a critical knowledge and practice gap. Without systematic collaboration between researchers and classroom practitioners, reading materials may fail to address

learners' actual needs, curriculum realities, and classroom constraints. At the same time, without research-informed data, reading materials may lack theoretical support in critical thinking development and reading skills.

Therefore, it is essential to investigate how researchers and practitioners can work together to design and implement English reading materials that promote critical thinking skills among Myanmar upper secondary students. Exploring this collaborative process not only responds to current calls to strengthen the research–practice nexus but also addresses the urgent educational need to equip students with higher-order thinking skills required for academic success and future participation in a knowledge-based society. This study, therefore, aims to contribute empirical evidence on researcher–practitioner collaboration in materials development while providing practical solutions for enhancing critical reading instruction in Myanmar's secondary education context.

1.3 Research Objectives

Since this study aims to develop English reading materials to enhance the critical thinking skills of EFL upper secondary students in Myanmar, the research objectives of the study are formulated as follows:

1. To investigate the current state of critical thinking skills manifested in extant English coursebooks in Myanmar.
2. To develop a critical thinking program for EFL upper secondary school students.
3. To explore the affordances and challenges of implementing the critical thinking program reported by focal teachers.

1.4 Research Questions

The research questions are formed as follows:

1. What is the current state of critical thinking skills manifested in extant English coursebooks in Myanmar?

2. What are the components of a critical thinking program for EFL upper secondary school students?

3. What are the affordances and challenges of implementing the critical thinking program reported by focal teachers?

1.5 Significance of the Study

This Research and Development (R&D) study is conducted to develop English reading materials to enhance critical thinking through a systematic collaboration between the researcher and practitioners, teachers. Employing Participatory Action Research (PAR), this study ensures the collaborative participation and a reciprocal partnership of the researcher and practitioners. In addition, this study directly addresses the recent calls to strengthen the interconnections between research and practice in English language education research. Moreover, the findings of this study can contribute not only theoretically but also practically to Myanmar education reforms, showing how the collaboration between researchers and practitioners can bridge the gap between the policy statements and the actual practices, leading to pedagogically innovative approaches.

Firstly, the analysis of the existing reading materials will shed light on the current state of critical thinking skills manifested in the reading materials for Upper Secondary English coursebooks, introduced after education reforms in Myanmar. Despite studies on the representation of critical thinking skills elements in EFL textbooks in Asian Contexts: Birjandi and Alizadeh (2013) in Iran, Ilyas (2015) and Solihati and Hikmat (2018) in Indonesia, existing studies in Myanmar: Aung (2013), Aung (2015), and San (2019), analyzed the reading materials (1960-2020), prior to education reforms. No study has been conducted on the existing EFL textbooks (2021-2023) following the education reforms in Myanmar. This study will fill this significant gap, studying and analyzing the existing upper-secondary level EFL textbooks (2021-2023). The findings will practically inform material developers and policy-makers to develop more effective materials and programs for fostering the critical thinking skills of EFL students in Myanmar. Moreover, since this investigation is carried out by

analyzing and synthesizing the existing taxonomies, the empirical studies on the development of critical thinking skills, and the critical thinking frameworks for EFL learners, this study can address the gaps by suggesting that policymakers, material developers, and English language educators align Myanmar's education reforms with the trending skills of 21st-century education.

Secondly, the developed English reading materials will not only provide an innovative model for collaboration between researchers and practitioners but also showcase a prototype for future studies on the integration of critical thinking skills in EFL settings. In addition, since this study employs participatory action research (PAR), inviting the in-service EFL upper secondary teachers to develop the English reading materials, the developed materials will deeply reflect the insights of those in-service teachers and will directly address the needs of learners. This study will also be significant in contributing knowledge and experience to inform material developers to include the diverse voices of the different stakeholders. Additionally, this collaborative process not only addresses recent calls to reinforce the nexus between research and practice but also reflects the significant educational requirement to integrate higher-order thinking skills into English reading materials.

Finally, the result of the affordances and challenges of implementing the critical thinking program reported by focal teachers will provide how collaboratively developed materials can be successfully implemented in an actual classroom, offering an alternative approach for evaluating the learning materials through a researcher-practitioner partnership. In addition, this study provides a sustained and long-term model for curriculum development targeting to prepare students for skills required in the 21st century.

1.6 Definitions of the Terminology

1.6.1 EFL Upper Secondary Teachers in this study refer to five in-service teachers, appointed by the Ministry of Education (Myanmar) as government officials to teach English as a foreign language at state high schools in Myanmar. These teachers voluntarily joined the Participatory Action Research to design and develop the reading

materials aimed at developing critical thinking skills of Upper Secondary EFL students in Myanmar.

1.6.2 English Reading Materials in this study refer to collaboratively developed reading materials designed for developing critical thinking skills of Upper Secondary EFL students in Myanmar. The materials include both literary and non-literary texts, covering different themes, followed by sets of reading tasks and comprehension questions to enhance the critical thinking skills development of EFL students. These materials were designed, revised, and finalized through a collaboration between the researcher and practitioners.

1.6.3 Critical Thinking Skills (CT) in this study refers to higher-order of thinking skills demonstrated through students' abilities to analyze, reason, question, evaluate, clarify, synthesize, summarize, and create in response to English reading texts and tasks embedded in the collaboratively developed reading materials.

1.6.4 Components of the Critical Thinking-Oriented Reading Materials refer to the key features and structural elements of the collaboratively developed English reading materials designed to promote critical thinking. These components include text selection principles, task types, questioning techniques, activity sequencing, and instructional scaffolding strategies identified and refined through the researcher–practitioner collaboration process.

1.6.5 EFL Upper Secondary Students refer to learners in Grades X, XI, and XII in Myanmar State High Schools who are learning English as a foreign language as part of the national curriculum and who participated in the implementation phase of the collaboratively developed critical thinking skills-based reading materials.

CHAPTER 2

LITERATURE REVIEW

This section presents 1. Contextual backgrounds of Myanmar, 2. Critical Thinking: A Theoretical Overview and Its Role in General Education and English Language Teaching (ELT), 3. Reading materials development 4. Research–Practitioner Collaboration in Educational Design, 5 Conceptual Framework of the Study, and 6. Related Studies.

2.1 Contextual Backgrounds of Myanmar

2.1.1 Education in Myanmar

Myanmar (also known as Burma) is a country in Southeast Asia. It is wide in geography, ethnicity and socio-economic disparity (MIMU,2018). Similarly, Myanmar’s education is diverse, shaped and transformed by the complex historical, social, and political situations in different ages. Education in Myanmar has a very long history, dating back to the rise and fall of the ancient dynasties. In addition, it has been transformed by different kinds of socio-political factors. Education in Myanmar can generally be categorized into “four periods – before the Independence, after the Independence until 1962, under the military rule 1962-1988, and the present period of popular demands for democratization” (Lwin, 2000, p.17). In addition to the generally categorized four periods, the education before the British colonialization and the British colonialism in Myanmar should also be taken into account since they have, in some ways, socio-political factors on the development of critical thinking skills of today's students.

Education in Myanmar is deeply rooted in its complex historical, traditional, and cultural aspects. Long before the conquest of the British in 1885, Buddhist monasteries served as teaching-learning centers. They taught “literacy, numeracy, sciences, history, and geography as well as Buddhism” (Lwin, 2010, p.2). Buddhism is a sort of religion that is based on critical thinking, and there is a relation between

Buddhism and critical thinking (Zhang, 2018). It also allows, encourages, and inspires its followers not to accept facts on mere assumptions, as mentioned in the Kalama Sutta. However, to prolong the Buddhist scriptures, the monks had to adopt a rote learning method since there was no script at the time of the Buddha. Consequently, when Buddhism was brought to Myanmar, Buddhist monasteries played a key role in educating Myanmar citizens, using the rote learning method. Young laymen from every walk of the Burmese society, from the Royals to the commoners, were admitted to the monastic education centers, and they were taught to memorize grammatical structure, conjugations, and verbs in the Pali language. Those who could memorize them the most were regarded as the best learners among others. This assumption might still have a strong influence on today's education of Myanmar and the teaching of the English language in some areas of Myanmar. Students are expected to learn and memorize English vocabulary, verbs with regular and irregular forms, using rote learning (Lwin, 2010). This method relies heavily on remembering, the lowest level of thinking in Bloom's Taxonomy (1956). Therefore, it can be assumed that the rote learning method was the dominant method of education in Myanmar before the colonial period.

After the conquest of the British in Myanmar, the popularity of monastic education began to fade away in 1917, while the Christian missionary schools began to spread throughout the whole nation. An educational system based on the existing monastic system was also proposed by the British administration, but it was abandoned as the Buddhist monks refused to teach modern topics like geography (Kaung, 1963). Then the British government set up many schools adopting their own education system. There were three types of schools in the colonial days: Vernacular school, where Burmese or a native language was used as the medium of instruction (MOI), Anglo-Vernacular school, where both English and Burmese were recognized as MOI, and English school, where English was the MOI. However, giving freedom to Christian missionaries in British territories, teaching English and science to minorities, promoting the spread of primary education, encouraging the study of indigenous literature, implementing payment by results, implementing a secular curriculum in government schools, establishing regional education committees, and encouraging volunteerism were all significant aspects of the British government's education policy (Tha Kyaw, 2015). In addition, the primary aim of the British education in Myanmar was to produce

only workers for their colonialism to develop the support staff needed in their colonies and to prepare Burmese youngsters to adjust to a changing social environment and administrative structure (Than Nwe Sein, 2015; LAMP, 2021) and the then-current education policy of the British did not mention any kinds of thinking including critical thinking.

After the Independence (1948), the new Government, led by the then Premier U Nu, publicized a new education policy, but it failed for various uncontrolled factors, including civil war (Lwin, 2000). Then, the government initiated another education plan which aimed to make every citizen have access to the three Rs: reading, writing, and arithmetic, to make every citizen a responsible one of the Union, and to preserve the democratic practices throughout the Union of Myanmar (Office of the SUPDT, 1953 as cited in Lwin, 2000). As Thein Lwin (2000) contended, the then-current curriculum after Independence caused the inequalities between academic and vocational, between rural and urban, and between boys and girls. Besides, any teaching method or any statement for the provision of critical thinking to students was never mentioned, not only in its policy documents but also in actual practices.

The years between 1962 and 2010 are the years of military authoritarianism. The education system and policy (1960-1988) were mainly influenced by Socialist values (Shah & Cardozo, 2019). Myanmar has won two prizes sponsored by the UN for the literacy campaigns (Smith, 1991), but may have less focus on the development of thinking skills. As cited by Ilyas (2015), Reid (2012) contended that the situation in Indonesia under the military regime “suppressed critical thinking and shut down virtually all spaces for contestation that challenged government policies” (p.147). Myanmar also shared the almost identical events under the military regime (Smith, 1991). Besides, Myanmar students were also trained and expected to be disciplined both in school and in society (Lwin, 2000) without giving them any opportunity to think. Curriculum and coursebooks of those years (1960 -2010) mainly focused on the lower order of thinking skills if they are analyzed according to Bloom’s taxonomy (1950) (Aung, 2013). There was no difference until the 2000s, as Aung (2022) commented, “subsequent military regimes took a similarly authoritative approach” on education under the military regime of 1988 until 2010. There was a curriculum change between 1995 and 1999, but it was still used until the 2015-2016 academic year (Win Zaw Htet,

2020), and it did not meet the 21st-century skills. In other words, the education policy, practices, and the curriculum had nothing to do with the critical thinking of Myanmar students.

All in all, Myanmar's education started with monastic education with rote learning, followed by a colonial education policy training learners only for administrative roles, and later by a military regime oppressing critical thinking. Fortunately, there was a reform in the education sector of Myanmar.

2.1.2 Education Reforms in Myanmar

Myanmar drew a lot of attention and interest after the political transition in 2010. The transition years of 2010, 2011, and 2013 are known as “Myanmar’s Spring”. The new democratic government announced “a 10-point education policy and a 20-year plan called the Basic Education Sector National Education Promotion 20-year Long-term Plan 2011–2031” (Lall, 2021). It also led to the appearance of the Comprehensive Education Sector Review (CESR), which was “largely over-run by foreign experts” (Lall, 2021) in 2012. The goal of the CESR is to provide suggestions for the reform of education in Myanmar. The CESR was aided financially by different international agencies, and it was carried out with three phases: the Rapid Assessment for Phase I, the In-depth Review for Phase II, and the development of the sector-wide costed plan for Phase III. In phase III, the CESR was able to provide the National Education Sector Plan (NESP), but it did not come to implementation under the government of the 2010 election. The new government formed by Aung San Suu Kyi after the 2015 election adopted the existing NESP and made no changes to it, but changed the name to the National Education Strategic Plan (2016-2021), NESP (2016-2021). The NESP (2016-2021) is shaped by five main sources of information: (1) CESR Phase 1 and Phase 2 reports; (2) EPIC Education Working Group Reports; (3) National Education Law (2014) and the Amendment (2015); (4) Nine NESP Sub-sector Action Plans; and (5) government reform priorities (MoE, 2016). As a part of the NESP (2016-2021), the previous education system of the basic education level was replaced by a new one in 2021-2022, 2022-2023 Academic Years (AY), as described in Table 2.1 and 2.2.

Table 2.1 The Previous Education System before the NESP (2016-2021), as Mentioned by Htet (2020)

Age	Grade	School level
15	Grade 11	Upper Secondary Level
14	Grade 10	
13	Grade 9	Lower Secondary Level
12	Grade 8	
11	Grade 7	
10	Grade 6	
9	Grade 5	Primary Level
8	Grade 4	
7	Grade 3	
6	Grade 2	
5	KG or Grade 1	

The previous education system before the NESP (2016-2021) was not in alignment with the regional AESAN standard. Therefore, the CESR recommended to replace with a new education system with a new curriculum, as described in Table 2.2.

Table 2.2 The New Education System after the NESP (2016-2021), as Mentioned by Htet (2020)

Age	Grade	School level
17	Grade 12	Upper Secondary Level
16	Grade 11	
15	Grade 10	Lower Secondary Level
14	Grade 9	
13	Grade 8	
12	Grade 7	
11	Grade 6	Primary Level
10	Grade 5	
9	Grade 4	
8	Grade 3	

Table 2.2 (continued)

Age	Grade	School level
7	Grade 2	
6	Grade 1	
5	KG	

The National Education Law (2014) and the Amendment (2015) allowed the ministry of education to form the National Education Policy Commission (NEPC) which leads the following: “the National Curriculum Committee (NCC), the National Accreditation and Quality Assurance Committee (NAQAC), and the Rectors’ Committee (RC)” (as cited in Aung, 2022). The National Curriculum Committee (NCC) formulated the curriculum framework for the basic education with the following aims –

“The aims of the basic education curriculum are as follows: After the completion of basic education, students will be able to: (a) Attend the school until the completion of basic education (b) Develop “union spirit” and appreciate, maintain, and disseminate languages and literatures, cultures, arts and traditional customs of all national groups, (c) Become good citizens with well-developed five strengths including critical thinking skills, communication skills and social skills, (d) Apply their civic and democratic in daily lives, and abide by laws. (e) Be competent for Myanmar language which is the official language of the Republic of the Union of Myanmar and develop their skills in respective ethnic language and English (f) Develop foundational knowledge and skills for higher learning and technical and vocational educations, (g) Develop sound body and sportsmanship through participation in physical education activities and school health activities, and apply health knowledge in daily lives, (h) Appreciate and maintain natural environment and materialize its sustainability, (i) Become global citizens with awareness and appreciation of human diversity and abilities to practice basic knowledge of peace in their daily lives, (j) Take pride in being a citizen of the Union of Myanmar” (Myanmar National Curriculum Framework ,5th version p 1-2). Moreover, it also described thirteen guidelines to achieve the following aims, including 21st century skills.

State Counsellor Daw Aung San Suu Kyi, a key player in the education reform, clearly said in the NESP (2016-2021) –

“We are to provide our children with new knowledge and competencies, creativity and critical thinking skills and cultural and ethical values that will enable them to excel in their chosen careers and contribute to Myanmar’s socio-economic development in the 21st century... We must also redesign and launch a new basic education curriculum that focuses on relevant 21st century knowledge and skills” (p-5).

Union Minister of the Ministry of Education also described the inclusion of the 21st-century skills in the new curriculum –

“The purpose of Myanmar’s national education system is to equip our students, youth, and adult learners with the knowledge and skills they need to succeed in the 21st century” (p-6).

Therefore, it can be assumed that the new curriculum might have the required 21st century skills, especially critical thinking skills, since its guiding framework, law and official documents clearly state the terms “21st century skills, critical thinking skills and thinking” in them. Despite its clear description in the message of the policy makers, policy statement, the NESP (2016-2021), and the curriculum framework, critical thinking is still less heard in the education community. And students are reported to “lack the skills of critical thinking because the emphasis is on memorizing the lessons learned from the classroom just to pass the exam” (Soe et al., 2017). In a statement by the National Network for Education Reform (NNER), it was described that the then education system was still stressing on passive learning and lack of critical thinking as mentioned in its statement by Lwin (2017), “the current teaching/learning system that is focused on taking notes, memorizing and appearing examinations by heart should be replaced with the system that enables ‘active learning and critical thinking’” (p.4). Ilyas (2015) summarized the reasons why critical thinking has not been widely popular in the education system of the Indonesian context by providing the following points: firstly, Indonesian teachers may not know the concept of critical thinking very well and how to develop their students’ cognitive skills, and secondly, the government is less interested in promoting critical thinking skills. In Myanmar, there are two more facts: rote learning is still popular across the nation, and the socio-political values still prevent

students from practicing their critical thinking skills. The evaluation of how critical thinking is represented in the post-reform curriculum and coursebooks for the new education system formulated by the NESP (2016-2021) is very limited. Though NESP (2016-2021) states that monitoring and evaluation teams would be set up to review and revise the post-reform curriculum, those supervisory teams would monitor whether the post-reform curriculum covers “the nationalities’ languages, literature, culture, arts, customs, heritage, and traditions” (NESP, 2016-202, p. 119). The monitoring and evaluation teams do not investigate the role of critical thinking. Besides, there is no training, no seminar, and no workshop for critical thinking. Three research studies were available on the evaluation of the pre-reform EFL coursebooks (1960-2010), reporting the limited inclusion of critical thinking-based tasks. No empirical research or review research is available for the critical thinking skills of Myanmar students and teachers.

In short, a reform in the education sector emerged after a political transition in 2010, introducing the national education law, which led to CESR, NESP (2016-2021), and the new curriculum, emphasizing critical thinking along with other 21st-century skills. However, in the implementation process, there are many challenges such as the domination of rote learning, a lack of proper training for educators in critical thinking, and a lack of academic and empirical studies on the critical thinking skills of Myanmar students and teachers. As a result, they seem to be a hindrance in supporting critical thinking, and it has not been out from the new document version or the actual education practices among educators in Myanmar.

2.1.3 English Language Teaching (ELT) in Myanmar

English language teaching (ELT) in Myanmar has existed since the middle of the last dynasty. Myint (1992), quoting a statement of Pe (1976), claimed ELT in Myanmar started during the reign of King Bodawpaya (AD 1762-1819), providing that a Prince called Mekara was one of the very first English language learners in Myanmar. But Thiha (2014) contended ELT in Myanmar may be assumed to have begun in 1885, the year of the third Anglo-Burmese War. Since the British conquest of Mandalay in 1886, English became the language of the ruler while Burmese is the language of the ruled (Thiha, 2014). Thiha (2001), as cited in Aung (2013), divided the history of ELT in Myanmar into five periods as follows:

1. The first period (1885 to 1948)
2. The second period (1948 to 1965)
3. The third period (1965 to 1981)
4. The fourth period (1981 to 1988)
5. The fifth period (1988 to the present)

But since there is already a change in both education policy and the political process (as mentioned in 2.2. Education in Myanmar), it is assumed to be good enough to modify the periodical division of ELT in Myanmar by combining the third and the fourth as the third period (1965-1988) and the fourth period (1988-present). The first period (1885 to 1948) was under the rule of the British government. Aung (2013), citing from the annual reports for the year 1858-1873, mentioned English coursebooks developers remarked that Myanmar EFL learners studied English for academic purpose, unlike Indians who studied English to work for the British. The British government also set up schools both the European students living in Myanmar and Myanmar citizens. There were three different kinds of schools -the European Code (EC) schools, the Anglo-Vernacular (AV) schools and Vernacular schools (V). The EC were managed by the Christian missionaries and admitted European, Eurasian and elite Myanmar citizens. There, the medium of instruction was English in all prescribed texts from the primary and the secondary to tertiary level. In AV schools, English was used mainly only in high school level. For Vernacular schools, there is no English at all in their syllabus and Myanmar was used as the medium of instruction. Since the main objective of British education in Myanmar was to create laborers for their colonialism, to train the support staff required in their colonies, and to equip young Burmese people to adapt to a shifting social milieu and governmental system, teaching English during the days of the colonialism would not be more than being proficient in English and there might be no place for thinking skills.

After the Independence in 1948, the aim of teaching and learning English was more than for the attainment of language proficiency; they learnt English to have a wider outlook and obtain a modern education (Aung, 2013). But, Allott (1985) contended that there were declines “in the interest of English and in the standard of English teaching in schools” because of nationalism and anti-colonialism. The new government announced to teach English starting from Grade V and upwards not only

in state schools but also in EC, AV, and Vernacular schools. Thiha (2014) noted that the use of coursebooks and the curriculum were different from each other as teachers in different schools used different coursebooks and different methods of their choice. Because of the two facts that the civil war was breaking out and the government lasted for only ten years being busy fighting for the civil war, there was no official policy stating the development of critical thinking in both English and other subjects. There was a coup in 1960 and all nonstate schools- EC and Avs of the missionaries were abolished and brought all them together under the same system. Myint (1992) was optimistic about this, stating that event was one of the two major impacts on ELT in Myanmar. But, Thiha (2014) commented that the shifts in 1965 made Myanmar ELT worse than ever. Children who had already studied English since their kindergarten at EC or AV found insultingly easy when they joined state schools where English was being taught at Grade V. The country was being run with the socialist valued constitution and the nationalism was the priority. English language was seen by policy makers as a foreign language or even worse is that they saw English as a colonial legacy. Burmese became the medium of instruction at all levels of the education system: both basic and higher education. In 1966, all serious studies of English were abolished at the university level, and English became a minor subject after the joint statement by English Departments' Heads across the universities in Myanmar (Allot, 1985). All of the new policies set by the government (1965) resulted only in the decline of English language standard by the late 1970s. Then, from October ,1979 onwards, the policy makers reconsidered the importance of ELT and published state sponsored bilingual children's weekly papers, provided training for EFL teachers and sending university teachers to UK and Australia, and inviting the British Council to run a diploma course in English (Allott, 1095). Yet, the EFL coursebooks were mainly for the lower order of thinking skills (Aung, 2013).

Since 1988 uprising, as the youngsters were interested in democratization, demilitarization and decentralization, there were big desires in learning English among them. The communication with foreign countries rose and the public awareness of learning English also increased. Studying English was for the improvement and the proficiency of all English four skills. The ministry of education, as cited by Aung (2013), convened three seminars at national level for the basic education, with the aim

of (1) revising and reforming the basic education system, (2) Introducing a new assessment system, defining basic completion and restructuring the university entrance exam, (3) introducing multi-media classrooms for improving the teaching-learning process and (4) improving the equality of teacher education and (5) supporting all round development activities and (6) universalizing primary education. Consequently, a new EFL textbook was introduced to the Grade XI in 2000-2001 Academic year. This new book aimed to foster all of English four skills of students but it was lack of critical thinking skills and 21st century skill (Aung, 2013).

In 2010, a so-called democratic government was formed and the 10-point education policy and CESR, NESP (2016-2021), education reforms and curriculum reformed followed. But, all of CESR's goals were not implemented until 2015 and the new government led by Daw Aung San Suu Kyi adopted the original NESP (2016-2021). As a result, new grades such as Grade X, XI, XII are introduced and new coursebooks, which are claimed to focus on both receptive skills and productive skills as well as 5Cs of 21st century skills are embedded, are released. However, no research has been done about the representation of critical thinking skills in the newly released coursebooks for the new high school levels.

All in all, ELT in Myanmar dates to the colonial period, starting with three different kinds of schools: the European Code (EC) schools, the Anglo-Vernacular (AV) schools, and Vernacular schools (V), which all aimed at preparing EFL learners for having a proper communication in colonial government jobs. The government 1848 introduced modern ELT education, but nationalism and anti-colonialism saw the English language as a colonial legacy, which eventually led to the decline of ELT until 1979, in which the national level policy makers tried again to reinstate the status quo of ELT while the focus was only on language proficiency leaving the thinking skills behind. The 2010 political transition set a 20-year education plan, followed by NESP (2016-2020) and the publication of a new curriculum and new coursebooks (2021-2023). However, no research is available on studying to what extent these EFL coursebooks represent critical thinking skills.

2.1.4 English Coursebooks, Reading Materials for Upper Secondary Level EFL Students in Myanmar and their Flexibility

The main authority of publishing English coursebooks in Myanmar is solely vested in the Basic education curriculum, syllabus and textbook committee, a child agency of the Ministry of Education. After having approval from the Basic Education Council, the Basic Education Department and the National Cabinet, the Textbook committee supervises and undertakes the curriculum development, syllabus designs and textbook publications. There are 8 coursebooks used for high school level since 1960. They are (1) The treasures of a Kingdom and the Coral Island (1960-1964), (2) The story of Annapurna (1964-1968), (3) Seven Inventors (1968-1972), (4) Wuthering Heights (1972-1993). (5) New English Course (Book Six) (1972-1977), (6) Revised High School English Text (1977-1986), (7) Selected Myanmar Tales (1993-2000) and 8. English Text Grade XI (2000-2021).

The first book is the combination of two books: The treasures of a Kingdom and the Coral Island (abridged version) by R.M. Ballantyne. These books were used to improve the reading and writing skills of the students and there was no place for the practice of listening and speaking. Students had to learn theme, plot, characterization and rote learning was primarily the dominating method since students were required to answer stereotyped answers in their exams (Aung, 2013). The second book, “The Story of Annapurna” was used to improve the reading skills of the students. It was about the adventures of French mountaineers. Like its preceding book, there was no critical thinking or higher order of thinking skills embedded in its content. The third one was different from the previous book: literary text, that is, the third is the informative text, which is about the “seven inventors” by Harry Menicol. But its learning objectives were similar to the last two books that reading and writing was the primary aims. In the academic year of 1972-1973, a new book named “New English Course Book Six” was introduced together with teacher’s manual and students’ workbook to Grade XI students. The learning objectives of this book were to give the foundation of English four skills to students. The fifth book “The Revised High School Text” was used for nine years from 1978-1986. It was a reviewed version of the fourth book and used for both Grade X and XI. But developing reading skill was the ultimate goal of this book. In 1987, a new literary text named “Wuthering Heights by Emily Dickenson: An Abridged Version” was released with its teacher’s manual, supplementary text for grammar and other supplementary materials by different commercial publishing

houses. Since it was a piece of literature, it was used for developing reading and writing skills of students. From 1994 to 2000, local wisdom based “Selected Myanmar Tales” was used for Grade XI students. Since its former book was lengthy and language level was high, Myanmar Tales written in English by Myanmar writers were considered to use to foster the reading and the writing skill of students. But there was no place for practicing speaking and listening skills of students. After the three consecutive seminars on basic education in Myanmar, a new textbook was used for Grade XI students from 2000 to 2022. Like its predecessors, it was used for improving students’ knowledge of grammar, acquisition of lexicons, reading and writing skills. In 2013, Aung conducted the studying of cognitive skills embedded in those eight books. It was found lower order of thinking skills are more prevalent than higher order of thinking skills in them.

In the research by Aung (2013), unfortunately, the overall distribution of lower order of thinking skills and higher order of thinking skills in all eight books was not shown. However, it was mentioned that higher order of thinking skills: Analysis, Synthesis, and Evaluation are in a few amounts in those coursebooks, while lower order of thinking skills: Knowledge, Comprehension, and Application are more dominating in all of those coursebooks. It was concluded that these eight coursebooks throughout the ELT history in Myanmar were aimed at developing only the lower order of thinking skills of students. It is no surprise that all of these coursebooks were released under the supervision of the authoritarian, socialist, and conservative policy makers as it has been the tradition in Myanmar to prescribe texts for different levels of education, reflecting their ideologies (Cheesman, 2002; Lall, 2020). However, as the country is walking towards democracy and sustainable development, new coursebooks that represent higher-order thinking skills or critical thinking skills are in high demand to train its citizens and to equip its students with 21st-century skills.

Since the 1960s, there were eight EFL coursebooks, and they were published under the close supervision of socialist, conservative policymakers, and focused more on reading and writing skills, emphasizing other language skills like speaking and listening. All of them focused more on lower-order thinking skills than higher-order thinking skills, including critical thinking. Eventually, rote learning became the most popular approach in the classroom, and students’ comprehension was assessed through rote learning dominating tests. That led to the discouragement of critical thinking in

students. However, since Myanmar is trying to keep abreast with other developed nations in the 21st century, new learning material for critical thinking skills is in serious need.

The Ministry of Education (MOE) is the sole authority for designing, developing, and publishing the coursebooks throughout the history of education in Myanmar. To be precise, the Basic Education Council supervises the effective implementation of the curriculum prescribed by the Ministry with the approval of the National Curriculum Committee and reviews, oversees, and amends the curriculum prescribed by the Ministry (Basic Education Law, 2019). The Basic Education Council is chaired by the Minister for Education and supported by members, who are directors of subsidiary departments. The coursebooks prescribed and approved by the ministry are distributed throughout the country, and schools are instructed to follow precisely the prescribed coursebooks. In other words, the top-down process is prevalent in implementing coursebooks in Myanmar since the authority to decide the designs and structures of the curriculum and coursebooks is vested in the Basic Education Council, which scrutinizes, approves, and distributes the prescribed coursebooks across the country under the supervision of the Ministry of Education. Therefore, teachers and students in schools across Myanmar have to follow exactly the instructions of the Ministry (Basic Education Law, 2019). Despite having no explicit statement on using unprescribed coursebooks in schools, the law clearly states that the coursebooks “must be scrutinized and submitted to the Ministry with the approval of the National Curriculum Committee (Basic Education Law, 2019). When teachers feel that the prescribed coursebooks are not enough for the desired improvements of their students, they may cope with the challenges through the use of supplementary materials or the adaptation of the extant coursebooks. Since students at different education levels are assessed through the questions, based on the prescribed texts. If teachers failed to follow the prescribed texts, students might not perform well in their exams, resulting in the complaints to the teachers or warnings by the Education Offices to the teachers. The flexibility of coursebooks is rigid in the exam-oriented and policy-driven educational community. However, an emerging coping mechanism is revising texts and tasks for the better learning, active learning and critical thinking-based learning (NESP, 2016-

2021). This approach is flexible and promising for sustained development of learning in such rigid context as Myanmar, without violating the prescribed coursebooks.

2.2 Critical Thinking: A Theoretical Overview and its Role in General Education and English Language Teaching (ELT)

2.2.1 Critical Thinking: A Theoretical Overview

The term “critical thinking” is, according to Fisher (2013), a “buzzword” in the educational community. According to Stapleton (2001), there are two different schools of thought on the meaning of critical thinking. One side argues that critical thinking is a well-defined concept that can be tested through empirical means. On the other side, there are individuals who argue that critical thinking is a concept that lacks clarity and may be specific to particular subjects without any empirical parameters or a social practice that is indescribable and exists on the level of ordinary understanding. John Dewey (1910) is regarded as a pioneer in defining critical thinking. He defined critical thinking as “reflective thinking, which is active, persistent, and careful consideration of any belief or supposed source of knowledge in the light of the grounds that support it and the further conclusions to which it leads.” He described critical thinking as having the nature of “analysis, discrimination, assessment, hypothesizing, and problem-solving” (Ghanizadeh et al., 2020). Paul (1988) saw critical thinking as analysis, evaluation, and synthesis. Fisher (2013) contended that Socrates first initiated this educational approach in western philosophy 2,000 years ago. On the other hand, Buddhism, an eastern philosophy, is a little bit earlier than Socrates in the application of critical thinking. The Kalama Sutta is famous for critical thinking practices in educational settings, and it has been approved that the instructional model based on the Kalama Sutta has impacts on developing the critical thinking skills of students (Thaieow et al., 2013).

Critical thinking has gained significant attention in the educational community of the 21st century, as noted by Fisher (2001) and Bobkina and Stefanova (2016). However, it has an indistinct meaning. There is no consensus on the definition of the word “critical thinking” (Hashemi & Ghanizadeh, 2012), and Atkinson (1997) said

critical thinking is an undefinable concept in education. Besides, Lai (2011) discussed that there are three strands of critical thinking. Rather than emphasizing the behaviors or acts the critical thinker is capable of, this strand concentrates on the idealized critical thinker by listing their traits and attributes (Lai, 2012). McPeck (1990), Ennis (1985), Lipman (1988), Facione (1990), Paul (1992), and Facione (2000) are prominent in defining critical thinking from a philosophical perspective. In the psychological strand, there are two sub-groups: those working in cognitive psychology focus on how people think, not how they should think, while other cognitive psychologists focus on critical thinkers' actions and behaviors. But, according to Sternberg (1986), as cited by Lai (2012), philosophers do not show approval for the latter assumptions of cognitive psychologists. They saw the latter assumption as a reductionist view of complex knowledge into disconnected idea collections. Sternberg (1986) and Halpern (1998) can be seen in defining critical thinking from a psychological strand. In the educational strand, Bloom (1965) is widely recognized as a leading figure in critical thinking, along with his taxonomy, especially his higher-order thinking skills. Analysis, synthesis, and evaluation, which are in the higher order of thinking skills in Bloom's Taxonomy (1956), are occasionally mentioned to symbolize critical thinking (Kennedy et al., 1991). From an educational perspective, it can be divided into two groups (Stapleton, 2001): those who believe in critical thinking can be taught and assessed, and those who do not believe in teachable critical thinking.

Many critical thinking scholars agree that critical thinking should have two distinct dimensions: disposition-based and skill-based (Facione, 1995). Open-mindedness, fair-mindedness, the propensity to seek reason, inquisitiveness, the desire to be well-informed, and flexibility are the dispositions concerning critical thinking (Bailin et al., 1999; Ennis, 1985; Paul, 1992; Facione, 1990, 2000; respect for and willingness to entertain others' viewpoints). Halpern (1998) and Lai (2012)

There are three more strands concerning critical thinking (Ilyas, 2015). The first one, critical thinking, is a western philosophy. Dewey's (1991) definition of critical thinking started with his belief, as stated in "a belief is deliberately sought and has the adequacy to support the belief examined. This process is called reflective thought; it alone is truly educative in value and its forms, according to the principal subject of this volume." Dewey's view (1991) might have an influence on Brookfield's (1987) view

on critical thinking, as “thinking critically involves our recognizing the assumptions underlying our individual beliefs and behaviors.” These two scholars see critical thinking as a practice of individualism, not collectivism. That’s why Atkinson (1997) might have assumed it would be problematic to teach critical thinking to easterners, who prefer living in collectivism (Kwang, 2001; Tung & Chang, 2009). In the second strand, Ilyas (2015) said critical pedagogy (CP) is the same as critical language awareness (CLA) in the third strand.

Despite the different strands, different schools, and different views on critical thinking in general, there is a widely used definition of critical thinking. Ennis (1989) defined critical thinking as “reasonable, reflective thinking that is focused on what to believe or what to do.” According to Scriven and Paul (1987), critical thinking involves actively and skillfully using observation, experience, reflection, reasoning, and communication to conceptualize, apply, analyze, synthesize, and evaluate information in order to guide belief and action. In today's world, the ability to think critically is essential for success in the workplace and to navigate the complex and demanding environment. Consequently, it has become the responsibility of educators to teach and cultivate critical thinking skills in learners. According to Khatib and Alizadeh (2012), some scholars, such as Paul and Elder (2007) have suggested that learners intentionally acquire critical thinking skills through their lessons. Schaefersman (1991) proposed two methods for teaching critical thinking: modifying teaching and testing methods slightly to enhance critical thinking or using formal exercises, programs, and materials designed by specialists. It can be inferred that formal training can help develop critical thinking skills in students. Several models and frameworks have been proven useful in improving critical thinking skills, including those proposed by Halpern (2003), Schaefersman (1991), and Khatib and Alizadeh (2012).

2.2.2 Critical Thinking in General Education

In today's world, the ability to think critically is essential for success in the workplace and to navigate the complex and demanding environment. Consequently, it has become the responsibility of educators to teach and cultivate critical thinking skills in learners. According to Khatib and Alizadeh (2012), some scholars such as Paul and Elder (2007) have suggested that learners intentionally acquire critical thinking skills through their lessons. Schaefersman (1991) clearly stated that “there are two ways to

teach critical thinking in the classroom. The first method is also the easiest, least time-consuming, and least expensive. This method is simply modifying one's teaching and testing methods slightly to enhance critical thinking among one's students. The second method is more difficult, time-consuming, and expensive. This method makes use of formal critical thinking exercises, programs, and materials that have been prepared by specialists and can be purchased for immediate use by the teacher or instructor.” It can be inferred that formal training can help develop critical thinking skills in students. Several models and frameworks have been proven useful in improving critical thinking skills, including those proposed by Halpern (2003), Schaferman (1991), and Khatib and Alizadeh (2012).

Though many scholars and educators have different views and different definitions on the term of critical thinking, they all come to a unanimous agreement that critical thinking should be introduced and taught in the classroom. Ghanizadeh, Hoorie and Jahedizadeh (2020) said developing critical thinking “must be a priority for educators (p.15).” They are the ones who advocate the introduction of critical thinking to the education setting. Dewey (1933), Brookfield (1987), Meyers (1986) and Moon (2008) said tasks, lessons and activities should be carefully chosen to improve the critical thinking of students since it lies at the leading part of any educational attempt.

Abilities, dispositions and background knowledge are on the common ground of many scholars in the field of critical thinking in education (Li, 2011). Ng and Jeyaraj (2023) also claim that critical thinking means the combined term of skills or abilities, dispositions or attitudes and tasks or activities. Identifying the information, analyzing any statements, making inferences on them, reasoning them, judging and making decisions on them, asking for clarification and explaining are among the important aspects of critical thinking (Ennis, 1985; Facione, 1990, Halpern, 1998, Paul, 1992; Willingham, 2007, Case 2005; Lipman, 1988, Tindal & Nolet, 1995). Facione (1990) described critical thinking also covers the attitudes. Ennis (1985) distinguished the abilities of critical thinking from its dispositions. Li (2011) makes a list of dispositions towards critical thinking as “open-mindedness, fair-mindedness, seeking reason, inquisitiveness, well-informed, flexibility and respect for and willingness to entertain others’ viewpoints (p12).” Hasnah et al. (2024) said involvement, being intellectually curious and mental maturity are also essential disposition of critical thinking. But, at

the same times, educators need to take the background knowledge of their students while they are to carefully select activities for the improvement of critical thinking of their students. Bailin et al. (1999) and Facione (1990, as cited in Li, 2011), called this background knowledge as indispensable “domain-specific knowledge (p-11)”

There has been a debate on the topic of whether critical thinking can really be taught and assessed. Concerning with its teachability, two leading figures in critical thinking like Halpern (1988) and Kennedy et al. (1991) provided evidences on instructional programs and interventions work well on the development of critical thinking. But transferability of critical thinking from one domain to another is impossible if students do not have the proper chances to practice in various domains. The second argument is the assessment of critical thinking. Some scholars do not favor it claiming critical thinking is an abstract and mental process. However, multiple-choice and performance-based assessments are to some extent possible regardless of low reliability. Li (2011) suggests educators to use open-ended, authentic and real-world related tasks in case they have to assess their students’ critical thinking.

All in all, critical thinking is believed to be the one of the important aspects which are required to be taught in the educational setting for national development, workplace requirements and the globalization’s demand in the 21st century.

2.2.3 Critical Thinking in English Language Teaching (ELT)

Critical thinking is situated not only at the heart of every discipline of education but also at the center of English language teaching (ELT), teaching English to speakers of other languages (TESOL), and teaching English to speakers of foreign languages (TEFL). Critical thinking is regarded as a crucial skill for academic language learners and has become an indispensable part of the English language curriculum (Connolly, 2000; Davidson, 1998; Davidson & Dunham, 1997, as cited in Liaw, 2007; Zhao, Pandian, & Singh, 2016). Teaching critical thinking should be a prerequisite of English coursebooks (Shirkhani & Fahim, 2011). Language learners also require critical thinking skills to have proficiency in their language (Liaw, 2007). It can be implied that learners without critical thinking may show poor performance in language proficiency.

Critical thinking integration into English language education is essential as language learners who are equipped with critical thinking competencies can more critically and creatively think about the facts they learn, can better solve problems and

make decisions, can better understand the nature of the English language and the contents in the coursebooks, can better do sustainable development of learning and ultimately can academically, mentally, and physically well-adjusted, than non-critical learners of English (Mahyuddin et al., 2004). With those capacities, L2 learners are more likely to resolve misunderstandings, distinguish facts and fictions, reflect on their comprehension, and generate creative use of the English language in their daily communications. In other words, L2 learners who possess critical thinking will be able to sustain their language learning in a more effective way through higher-cognitive skills (Paul & Elder, 2014)

Furthermore, if critical thinking is integrated into L2 lessons, students will be able to overcome the ambiguity, complexity, and cultural nuances of the target language. Through the use of higher-order thinking skills such as evaluation and analysis, students will not only engage in the lessons they are learning but also shift from the reliance on rote-learning and memorization of lexical and grammatical structures to analytical use of language. Moreover, through critical thinking-based tasks, language learners also attain four diverse types of literacy: information literacy, media literacy, visual literacy, and intercultural literacy, supporting their language proficiency (Dummett & Hughes, 2019). Moreover, in learning English as a foreign language, learners need to use their reasoning, analysis, and justification skills to analyze texts, infer meanings, interpret the nuances, and synthesize the structures of the English language. Thus, if critical thinking is embedded in EFL contexts, learners will be able to improve their language proficiency and their cognitive skills almost simultaneously. In short, the acquisition of critical thinking skills and language proficiency is a parallel mechanism in the EFL context.

In addition to the opportunities provided by critical thinking for developing language proficiency, the integration of critical thinking into EFL classrooms also gains significance for three major reasons: more successful self-monitoring of learning, expansion of learning experience, and the significant relationship between educational achievements and critical thinking skills (Shirkhani & Fahim, 2011). Firstly, when language learners think in their own way, monitoring and evaluating the ways of their learning can become more successful. In addition, language learners' learning experience can be expanded through critical thinking, and the language learning can

become more meaningful. To the next point, the correlation with the learners' academic achievements and critical thinking is high. In addition to the above-mentioned reasons, critical thinking skills also positively affect English learners in English language teaching (ELT) (Irawati, 2014). Empirical studies, including Fahim et al. (2012), Yang and Gamble (2013), Sanavi and Tarihat (2014), Golpour (2014), and Lin (2018), and Liang (2020) have shown that critical thinking skills improve the competencies of the English language. Fahim et al. (2012) showed that reading comprehension ability was positively affected through critical thinking. Similarly, in the experimental study of Yang and Gamble (2013), the students in the experimental group. In which critical thinking-based activities were used, showed more significant improvement in input skills, such as reading and listening, than those in the control group, in which no critical thinking-based activities were used. Sanavi and Tarihat (2014) reported that students who were taught with critical thinking-based speaking tasks showed a better result than those who did not receive critical thinking interventions. Golpour's (2014) study in Iran, and Lin's (2018) infusion of critical thinking into L2 classes in China highlighted that the writing skills of EFL learners, who received the critical thinking-based instructions, were improved more than before. Therefore, it can be deduced that the critical thinking competency is significantly linked to language proficiency.

In addition to language proficiency, integrating critical thinking skills into English classrooms helps EFL learners facilitate language acquisition in a way that students are more likely to strengthen their language input since they have to compare the diverse structures of language, interpret the subtle differences of the culturally specific terms, and reflect on their learning (Liaw, 2007; Wu, Marek & Chen, 2013). Critical thinking can also enhance language proficiency since students who use higher cognitive skills can perform productive skills such as speaking and writing more fluently and accurately. In addition, critical thinking skills can also expand language across all four skills as critical thinking provides more spaces to students to practice their higher cognitive skills and make them more actively engage with texts, tasks, interpret meaning, and differentiate the diversity. Moreover, critical thinking enables students to generate critical ideas in productive skills such as essays and debates, in which they have to rely on their evaluative and analytical skills (Wang & Henderson, 2014; Sanavi & Tarighat, 2014). In addition, recent studies also highlight the role of

critical thinking in motivating students to take risks (Liang, 2020; Liang and Fung, 2020). Critical thinking can support the learners to use the target language in their daily communication, in which they may face different challenges. Since critical thinkers possess open-minded disposition, L2 learners who have the critical thinking capacity may dare to face risks with reduced anxiety.

In both teaching English and developing critical thinking skills of students, reading comprehension activities in EFL coursebooks play an important role (Soe, 2016; Shuyi & Renandya, 2019). Besides, there is a well-connected relation between reading comprehension and critical thinking development (Beck, 1989; Aloqaili, 2012). Reading is a thoughtful procedure of human communication to minimize the vagueness about inferential meaning and the reading of texts. Theoretically, it is stated that reading involves a thinking process and involves reasoning, evaluating, and analyzing (Ruggiero, 1984). These skills overlap with the higher-order thinking skills of Bloom's (1956) and Bloom (2001) taxonomies. In addition, schema theory supports the relation between critical thinking and reading. In other words, according to Sahirrudin et.al (2021), reading comprehension and thinking practices reflect each other in different ways that new information is acquired through the adaptation it into existing ones, that a reader uses inferential, summarizing, and analyzing skills on newly acquired information based on existing knowledge. Empirical studies also support the significant relationship between the critical thinking development of students and reading comprehension (Bolori, 2010; Kamali, 2011; Gomez, 2011). Bloom (1956) also advocates that reading comprehension questions should develop both the lower order of thinking skills (LOTS) and the higher order of thinking skills (HOTS), as critical thinking can be improved through reading. Bolori's (2010) study was done to find how Iranian English language learners employ inferential skills on reading comprehension tasks, highlighting that the correlation between critical thinking and reading comprehension is noteworthy. In the study by Fahim and Saepour (2011), debates and reading comprehension tasks were administered to find out the impact of critical thinking on reading. It was reportedly mentioned that critical thinking skills empower the improvement of critical thinking skills. However, in Gomez's (2010) study, the structured reading lessons affected the critical thinking skills development of students than the normal lessons. Therefore, it can be implied that analyzing the

information in the reading texts, evaluating the author's aims or purposes, synthesizing the provided information and reflecting the reading texts with prior knowledge.

Although it is acknowledged that critical thinking must be integrated into teaching the English language, some scholars like Atkinson (1997) resist teaching critical thinking in non-Western English-speaking contexts, describing their belief that critical thinking is a social practice of Western culture. However, his assumption was confirmed by no scholastic studies. In the previous decade, researchers in some Asian countries have conducted empirical studies and have approved developing critical thinking in EFL/ESL is possible and successful in Asian context: Nguyen et al (2020) and Chi (2022) in Vietnam, Moonma and Kaweera (2022), Srisermnbhok (2018) in Thailand, Pardede (2019), Khurniawati et al. (2020), Khatib and Alizadeh (2012) in Iran and Suhartoyo (2017) in Indonesia. The use of critical thinking in the English language teaching curriculum has many benefits, including the advancement of language proficiency. Renner (1996), as cited by Liaw (2007), described critical thinking skills that promote not only the intended critical thinking skills of students but also the language proficiency of students. Davidson (1997) also said that a duty of the ESL/EFL teacher was helping their students prepare for real scenarios rather than their classrooms (Davidson, 1997). If EFL educators or materials fail to do so, learners will face failure as they really encounter the critical thinking required challenges in their lives (Liaw, 2007). Besides, it was found that developing critical thinking skills enhances the communication competencies of learners, expands their stock vocabulary, and prepares learners for using language in diverse contexts for various aims (Harizaj & Hajrulla, 2017). If critical thinking is applied in the language classroom, it will have a large amount of positive effect on the proficiency of language learners. A lot of empirical studies by different researchers in different contexts have showne that integrating critical thinking into ESL/EFL classrooms contributes to ESL/EFL learners in many positive means by facilitating language acquisition, enhancing language proficiency, expanding language skills beyond memorization, motivating students to take risks and helping L2 learners generate critical ideas in productive skills (Wang & Henderson, 2014; Wu, Marek & Chen, 2013; Liaw, 2007, Liang and Fung, 2020; Sanavi & Tarighat, 2014; Liang, 2020; Rao, 2007; Gibson, 2012 as cited by Liang, 2020).

Despite its opportunities in both educational and EFL contexts, critical thinking is sometimes reported to have challenges in assessment. The debate on assessment roots in its vagueness of domain specificity. However, since the transfer of critical thinking to different contexts is possible, it is resolved. According to Alfadhli (2008), three major strategies can be observed in assessing critical thinking. The first one is using ready-made, valid, and reliable tests, while the second option is employing a specific assessment or rubrics developed by teachers or researchers to explore certain aspects of critical thinking, and the third option is training students to assess their own development. Choosing one of these three approaches depends on teachers' skills, students' needs, and the nature of the courses (Alsaleh, 2020). The reliable and valid assessments for critical thinking are the Watson-Glaser Critical Thinking Appraisal (WGCTA), the Critical Thinking Disposition Inventory (CTDI), the California Critical Thinking Skills Test (CCTST), and the Ennis-Weir Critical Thinking Essay Test (EWCTET). The Watson-Glaser Critical Thinking Appraisal (WGCTA) was developed as a valid and reliable test, despite its weakness: excluding its disposition. The Critical Thinking Disposition Inventory (CTDI) is a six-point Likert scale developed in 1994 while the California Critical Thinking Skills Test (CCTST) is a multiple-choice assessment (Lin, 2014). CTDI assesses the agreement and disagreement of the test takers while CCTST investigates analytical, inferential, and evaluative skills (Ilyas, 2015).

While discussing critical thinking in ELT, the terms critical pedagogy, critical literacy, and critical reading in ELT stand as a different branch of critical thinking. Critical pedagogy, firstly proposed by Freire (1970), is not only an educational philosophy in general education but also a post-method emerging in the ELT, encouraging learners to be free from being education's objects and to be autonomous learners and to be free from the oppressed statues to a liberated one (Aliakbari & Faraji, 2011). In other words, critical pedagogy is a social emancipation, raising awareness among public and inspiring them to reject any kind of discrimination. Critical pedagogy encourages educational emancipation and social changes, challenging the top-down practices in the oppressed society. Critical pedagogy aims to liberate and train learners in diverse social classes, social races, and genders and to transform the constructed oppressive community into a free one (Vandrick, 1994; Gadotti, 1994; Kanpol, 1998).

Moreover, critical pedagogy, according to Freire (1970), sees that education is beyond learning and it is both a political process and a vehicle for transforming the community for justice and social changes. Students and teachers are seen differently in critical pedagogy that students should actively participate in the learning process and teachers should be open-minded to learn from students through interactions with students (Aliakbari & Faraji, 2011). In ELT context, the resolutions on the use of language learning materials and language instructors in the classrooms are concerned with politics (Norton & Toohey, 2004). To sum up, critical pedagogy is a social-political process for social change, encouraging students to challenge the unfairness and injustice of the educational context they are learning and to employ general education or EFL education as a medium for transforming the oppressed society into a liberated and fair society. Critical literacy, similar to critical pedagogy, is also grounded in the theoretical concept of Freire, a Brazilian educational philosopher and a trending issue in EFL education (Mbau & Sugeng, 2019). In other words, like critical pedagogy, critical literacy is in the context of the social-political spectrum. Critical literacy is closely related to the texts and, therefore, involves reading and writing activities (Yoon, 2015). The reason why earning reading and writing in critical literacy is to make students identify experiences related to a specific power. Readers with critical literacy scrutinize the information in the texts to find out whose opinion is highlighted and whose voice is less heard in the text (Yoon, 2015). However, critical literacy is also mainly concerned with politics as it is in a strong relation with the sociological and political factors (Mbau & Sugeng, 2019). However, since critical pedagogy and critical literacy are related to socio-political factor-driven concepts to transform the society into a more liberated one, the nature of this study does not directly reflect those political concepts but focuses more on critical thinking, which is a cognitive phenomenon, involving mental processes such as evaluating, analyzing, and synthesizing the information in the texts.

2.2.4 Critical Reading and Critical Reading Materials

Critical reading is a high level of reading skills that students at different levels of education should acquire. Critical reading is defined by various scholars and researchers in various studies. However, the sub-skills in critical reading skills and the critical thinking skills are interrelated, and they should be developed together (Suratha,

2019). In other words, the critical reading skills share and overlap with the skills of critical thinking. Norris and Phillips (1987) say reading is thinking, and reading without reasoning or analyzing texts is impossible, positing that critical thinking and critical reading are correlated. Critical reading is beyond literal comprehension of reading texts, and it involves the reading skills such as analysis and judgement (Huijie, 2010). Paul (1993) also defines critical reading as “an active, intellectually engaged process in which the reader participates in an inner dialogue with the writer” (p.461). Compared with conventional reading in EFL, critical reading requires L2 students to read the texts by asking questions about the texts, providing assumptions, and making judgments of the texts (Ennis, 2018; Facione, 2020). In addition, critical reading is a process in which the reader uses higher-order thinking skills and thinks metacognitively to acquire meanings from the writer and to build a new meaning from the text (Hermida, 2009). Students with critical reading skills have the opportunity to analyze the information critically, interpret the texts, evaluate the information, distinguish between facts and perspectives, and justify the argument by the writer (Priozzi, 2003; Wallace, 2003; Wray, 2011).

While literal comprehension through general reading focuses on acquiring facts from the texts, critical reading requires the skills of identifying bias, evaluating facts, reasoning the reliability and the relevance of the supporting points, comparing with the existing viewpoints, questioning the perspectives, and making judgments (Wassman & Paye, 1985; Abdullah, 1994; Garrigus, 2002; Goldfarb & Johnson, 2007; Paul & Elder, 2006; Pardede, 2007; Talebi & Talebi, 2015; Manarin et al., 2015). The cognitive demands of critical reading strongly reflect higher-order thinking skills in Bloom’s Revised Taxonomy (2001) and Ilyas’ (2015) framework for critical thinking.

In EFL contexts, critical reading is of particular importance for EFL learners as they have to develop their linguistic competency and cognitive skills. Paul and Elder (2019) posit that readers need to rely on their cognitive skills, such as assumption, clarity, implication, perspective, and prediction, while reading a particular text. Janks (2018) and Luke (2019) also argue that critical reading process also requires not only cognitive skills but also a socio-cultural viewpoint, saying readers need to question the information, justify the text, and provide different perspectives on reading texts since they are shaped by social and ideological values. Therefore, in this study, since the

skills of critical reading overlap with the skills generated from Bloom's Revised Taxonomy (2001) and Ilyas' (2015) framework for critical thinking, critical reading is considered as an advanced reading process that includes higher-order cognitive skills such as understanding, evaluating, analyzing, interpreting, questioning, and providing reason & evidence on the text.

Critical reading-oriented texts should be particularly designed to encourage readers to rely on higher-cognitive skills. Reading materials that can encourage readers to use the skills of questioning, justifying, evaluating, and considering different viewpoints are considered important in developing students' cognitive skills (Bean, 2011; Paul & Elder, 2019). In terms of characteristics that make reading materials critical, the content of reading materials should be complex, challenging, argument-driven, evidence-based, ask for diverse perspectives, and engage in active reading (Bean, 2011; Graff & Birkenstein, 2018). Recent literature in critical thinking suggests that critical reading materials should present controversial or debatable issues, include spaces for diverse and multiple perspectives, and drive arguments, questions, and evaluations of readers. Reading texts about environmental issues, natural disasters, the use of fossil fuels, digital privacy, and the role of gender in society can spark debates as debatable and controversial issues encourage readers to provide alternative viewpoints, balancing the evidence (Kuhn, 2019). Li (2022) suggests that the active learning process and analytical skills of students can be enhanced through frequent exposure to diverse assumptions, allowing them to make comparisons between the existing arguments. Thus, materials that provide different assumptions can spark learners to use critical reading skills. Texts encouraging their readers to investigate the reliability, validity, and logic process of the evidence embedded in them are useful to provide spaces for using analytical skills (Facione, 2020). Literary texts are useful to stimulate those analytical skills since the themes in literature are diverse and debatable (Khatib & Alizadeh, 2012). Advocates for the use of literary text in ELF classrooms, like Lazer, contend that literary texts encourage students to think in diverse perspectives and to shift them from passive readers to an active role (Lazer, 2009). Meanwhile, recent studies in critical reading and thinking empirically show the evidence that the reading materials based on local cultures, folklore, customs, wisdom, and traditions are effective in developing EFL students' cognitive and linguistic skills (Noorhapizah et

al. 2020; Yoedo & Mustofa, 2022), Thus, reading texts should not only cover diverse and debatable issues but also reflect the local cultures to improve students' critical reading skills.

While reading texts in EFL coursebooks is significant in developing students' critical reading, it has been argued that reading comprehension questions scarcely demand cognitive skills from students, requiring revision to meet the characteristics of critical reading questions (Gönen & Kizulay, 2022). In terms of questions, Wallace (2003) mentions that for critical reading, questions should ask: vocabulary and grammar, overall text structure and organization, and text type and discourse convention. In addition, in order to make an assessment of critical reading skills of students, questions should be based on five essential outlines: "(1) Why am I reading this? (2) What are the authors trying to do in writing this? (3) What are the authors saying that is relevant to what I want to find out? (4) How convincing is what the authors are saying? (5) In conclusion, what use can I make of this?" (Wallace & Wray, 2011, p.38). These questions move the readers from knowledge level understanding, and comprehension to clarify the purpose of the author, to analyze and synthesize the facts and evidence by the author and to apply the knowledge acquired. Similarly, a framework of useful questions for critical reading was proposed by recent research that classified six kinds of questions: questions about the reader's role, questions about the text, questions about the way of creating the text, questions about the characters in the texts, questions about the meaning of the texts and questions about the effects of the texts of the reader (Bartu, 2002). Questions asking how the text is created conceptually align with the analysis skill, while questions about how the text emotionally affects the readers demand the evaluative skill. Keywords in the questions for critical reading by Bartu (2002) and Wallace (2003) reflect the keywords for higher-order thinking skills in Bloom's Revised Taxonomy by Anderson and Krathwohl (2001). Therefore, questions for critical reading conceptually correspond to the theories of higher-order thinking skills.

2.2.5 Promoting Critical Reading in EFL classrooms

A reader who can read critically means that he or she uses both lower-order thinking skills and higher-order thinking skills (Köse, 2006). Developing critical

reading skills is more than selecting appropriate reading texts and asking questions. It also requires the consideration of instructional strategies in promoting critical reading. In education and EFL settings, students will not engage in critical reading or critical thinking unless teachers support through structured lessons (Kuhn, 2019). In other words, students need to be scaffolded through instructional strategies. Wallace (2003), Peirce (2006), Wheeler (2009), Tomasek (2009), and Huijie (2010) proposed various instructional strategies. Wallace (2003) recommends the things material developers should consider when developing a reading lesson. Reading materials should inspire learners to take part in the selection or creation of text, and task and reading materials should be aware of cultural content. Secondly, learners should be inspired to get an awareness of their roles, reading approaches and the influences of sociocultural factors on them. Thirdly, reading materials should encourage students to use their critical reading skills. Besides, Wallace (2003) identified three stages of reading: pre-reading, while-reading, and post-reading. In the pre-reading section, students are expected to provide the answers based on their existing knowledge rather than taking answers from the provided text. In the while-reading section, students should be encouraged to provide the answers, analyzing, justifying, evaluating, and reasoning the evidence in the text. Material developers and teachers are suggested that they should select or create texts that can provide more opportunities for students to realize that the correct answer does not lie only in the text, but it may come from their analytical skills. After reading the text, students should be encouraged to participate in thinking-oriented activities to use their analytical skills. Peirce (2006) suggested that students should be tasked with a reading activity in which students preview the task, write a response to it, and check the comments on it. But, Wheeler (2009) proposed in a different way that the reading task should ask students questions about the text, about the reader, about the contexts, about the application of the text, and about the related issues to them. On the other hand, students are suggested to identify the aim of the text, to make connections between the text and what they already know, to interpret the evidence, to analyze and justify the assumptions, to provide different perspectives, and to make use of knowledge (Tomasek, 2009). But, Huijie (2009) proposed a hierarchical model for critical reading with four levels. However, these four levels conceptually correspond to Bloom's Revised Taxonomy by Anderson and Krathwohl (2001).

Peirce (2006), Wheeler (2009), Tomasek (2009), and Huijie (2009) present instructional strategies that develop questioning, interpreting, analyzing, evaluating, and applying. But, in contrast to Wallace (2003), those strategies emphasize questioning and hierarchical structures rather than text selection, structured progress, and sociocultural awareness, which are integrated into Wallace's (2003) structure. In addition, in terms of relevance to the EFL setting, Wallace's (2003) structure is more suitable for students who have to develop both linguistic and cognitive factors. Despite the reflection of Huijie's (2009) hierarchical model on Anderson and Krathwohl's (2001), Wallace's (2003) three stages: pre-, while-, and post-, are more relevant for adaptation for material development in this study.

2.2.6 Critical Thinking Frameworks

There are many popular critical thinking frameworks, critical thinking programs, critical thinking tests, and critical thinking taxonomies. But, in the study, there is a rationale for selecting the most relevant for Myanmar EFL learners. Bloom's taxonomy (1956) is a widely-used framework for categorizing different levels of cognitive skills that are involved in learning and critical thinking. It is widely used globally. Originally proposed by Benjamin Bloom and his colleagues in 1956, this framework has been revised and expanded over the years to include different dimensions of learning and thinking.

At the core of Bloom's taxonomy (1956) is a set of six hierarchical cognitive domains, each representing a different level of intellectual processing that is increasingly complex and sophisticated. These domains include: knowledge, comprehension, application, analysis, synthesis, and evaluation.

The taxonomy (1956) provides a valuable framework for teachers and instructional designers to develop learning materials and assessments that support critical thinking skills. For example, teachers can design activities and assignments that require students to demonstrate different levels of cognitive processing, such as identifying and recalling information (knowledge), explaining concepts and ideas (comprehension), applying knowledge to solve problems (application), analyzing information and drawing conclusions (analysis), synthesizing information to create new ideas or solutions (synthesis), and evaluating information or arguments based on criteria or standards (evaluation). In 2001, a group of cognitive psychologists developed and

published an updated version of Bloom's taxonomy, known as Bloom's revised taxonomy. This revised model involved several significant changes to the original taxonomy, including a reversal of the order of the first two levels, with understanding now preceding remembering. The addition of a new category named "remembering and understanding" placed emphasis on the importance of these lower-order thinking skills as a basis for higher-order thinking. The revised taxonomy also included the specification of verbs for each level, serving to clarify the specific cognitive processes involved. Furthermore, the addition of a new level, labeled "metacognition," involved thinking about one's own thinking and learning (Krathwohl, 2002).

By using Bloom's taxonomy (1956) and Bloom's revised Taxonomy (2002) to design learning materials and assessments, teachers can help students develop and improve their critical thinking skills. As students' progress through the different levels of the taxonomy, they become more adept at processing and evaluating information, and are better able to identify and solve problems, make informed decisions, and think creatively.

Bloom's taxonomy is a valuable tool for promoting critical thinking skills in students. By incorporating the different domains of cognitive processing into learning materials and assessments, teachers can help students develop the analytical and evaluative skills they need to succeed in academic and professional settings.

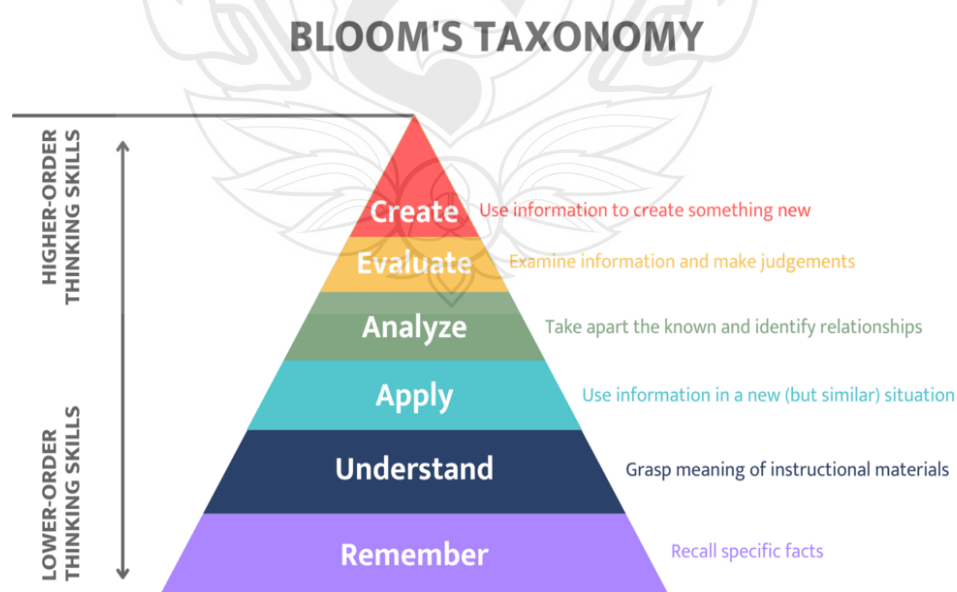


Figure 2.1 Bloom's Taxonomy (1956)

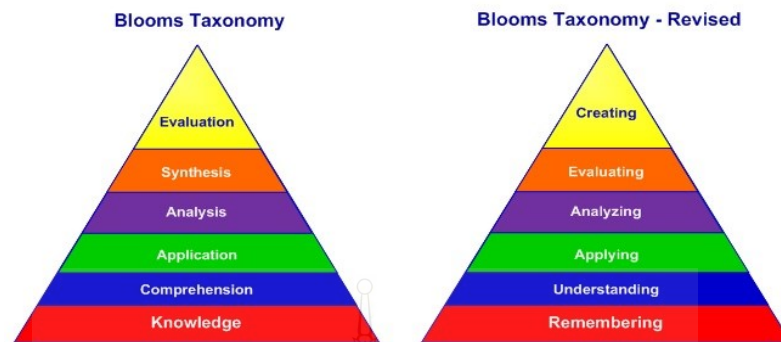


Figure 2.2 Bloom's Taxonomy (1956) and Bloom's Revised Taxonomy

However, there are some criticisms of Bloom's taxonomy. In particular, the hierarchy in Bloom's taxonomy is widely disputed (Moseley et al., 2005). Wood (1997), as cited by Moseley (2005), mentioned that teachers face difficulties in distinguishing between analysis and evaluation, which are parts of higher-order thinking skills. Another criticism is the verbs provided for each category by Hannah and Michaelis (1977), as cited by Moseley et al. (2005). Ilyas (2015) also criticized the verbs like 'tell' and 'write' for synthesis may not really promote critical thinking of students. Consequently, Ilyas (2015) generated a new framework for critical thinking, analyzing, synthesizing, and reviewing 2 taxonomies: Bloom's (1956) and Freeman's (2014), 6 empirical studies on critical thinking in ELT, 9 critical thinking programs, and 4 critical thinking tests. Based on his framework, Ilyas (2015) proposed nine types of questions for critical thinking. The nine questions are: (1) questions for clarification, (2) questions that probe assumptions, (3) questions that probe reasons and evidence, (4) questions about viewpoints or perspectives, (5) questions that probe implication, consequences, and alternatives, (6) questions about questions, (7) questions about predictions, (8) questions about agreement and disagreement, and (9) questions about summary and conclusion" (Ilyas, 2015). It was said that questions 2, 3, 4, 5, 6, and 8 can promote the critical thinking skills of students.

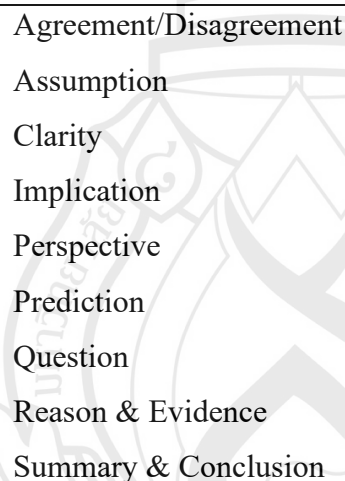
Remembering
Understanding
Applying
Analyzing
Evaluating
Creating

Figure 2.3 Key Concepts from Bloom's (1956) Taxonomy and the Revised Version (2001)

The rationale of selecting Ilyas' framework (2015) have been approved by researchers (Ilyas, 2015; Solihati & Hikmat, 2018; Nainggolan & Wirza, 2020) in the Asian Context. Ilyas's framework of critical thinking involves elements from critical thinking skills, but it still focuses less on higher-order thinking skills explicitly. Although Ilyas (2015) expressed his review of Bloom's Taxonomy, his new framework does not directly express the distinction between the lower order of thinking skills and the higher order of thinking skills. Scholars agree that critical thinking is another dimension of the higher-order thinking skills. By incorporating more elements and verbs for higher order of thinking skills in Bloom's (1950) and revised taxonomy (2005), the modified version will explicitly address the critical thinking skills of students. Ilyas (2015) only commented on the verbs for synthesis in Bloom's taxonomy. One of Bloom's students, Anderson and Krathwohl, revised the original taxonomy and made some amendments to it, providing verbs for each level of the taxonomy. Verbs: compare, identify, examine, express, categorize, and investigate are in Analyze, the fourth layer. Verbs: justify, recommend, assess, rate, prioritize, decide, and choose are in Evaluate, the fifth layer, while verbs: plan, invest, compose, design, construct, and imagine are in the sixth layer of the taxonomy. Comparing these verbs with the verbs provided in Ilyas's framework, Ilyas's work is limited to the access of higher-order thinking skills. To adapt and modify Ilyas's framework for the Myanmar context, it would be more beneficial by emphasizing the elements of higher order of thinking from Bloom's taxonomy (1950) and revised version (2005).

Activities/questions/tasks that probe:
 Agreement/disagreement (*Do you agree with that? Why/Why not?*)
 Assumption (*What are you assuming? Are you assuming that . . .*)
 Evidence (*Can you give evidence to support your response? What is the evidence provided by the author in the text?*)
 Clarity (*What does the phrase 'some days deliver happiness' mean? What do you mean by ...*)
 Conclusion (*What can you conclude from the story? What is the conclusion of the text?*)
 Implication / Consequence / Alternative (*Can you suggest a better alternative to help them? What is the consequence of not studying seriously at school?*)
 Perspective (*What do you think we should do to drug dealers? What is your view on the use of pesticides? What is your opinion about . . .*)
 Prediction (*What is the further effect if we have poor development of agriculture? What will happen if we keep cutting trees?*)
 Question (*Are these questions appropriate? Is question number 5 understandable?*)
 Reason (*What are the reasons given by the author? Are the reasons convincing?*)
 Summary (*Write the summary of this story. What can you summarize from this passage?*)

Figure 2.4 Ilyas's (2015) Framework of Critical Thinking, as cited in Solihati & Hikmat (2018)



Agreement/Disagreement
 Assumption
 Clarity
 Implication
 Perspective
 Prediction
 Question
 Reason & Evidence
 Summary & Conclusion

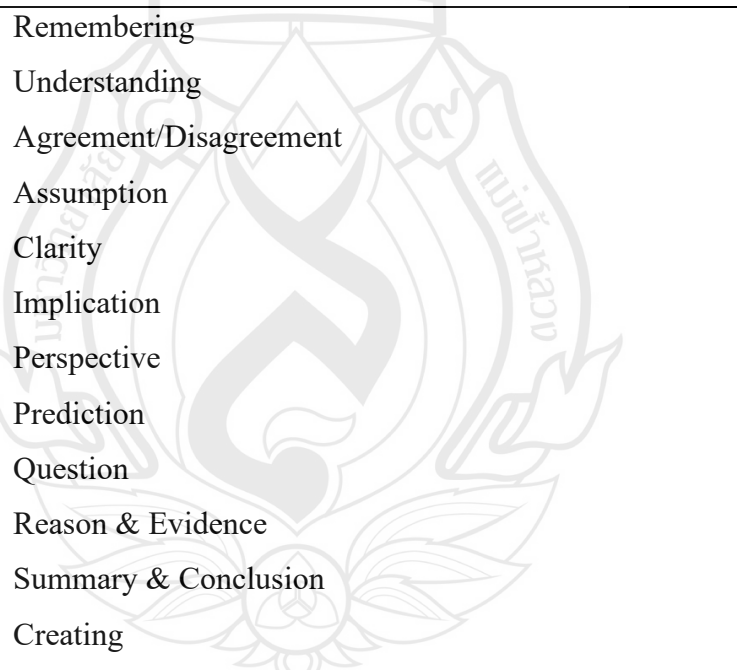
Figure 2.5 The Classification of the Skills in Different Taxonomies

Table 2.3 Key Concepts Generated from Bloom's Taxonomy (1956), the Revised Taxonomy (2001), and Ilyas' (2015) Framework

Skills	Bloom's Taxonomy	Ilyas's (2015) framework
Remembering	√	
Understanding	√	
Agreement/Disagreement	√	√
Assumption		√

Table 2.3 (continued)

Skills	Bloom's Taxonomy	Ilyas's (2015) framework
Clarity		√
Implication		√
Perspective		√
Prediction		√
Question		√
Reason & Evidence	√	√
Summary & Conclusion		√
Creating	√	



Remembering
Understanding
Agreement/Disagreement
Assumption
Clarity
Implication
Perspective
Prediction
Question
Reason & Evidence
Summary & Conclusion
Creating

Figure 2.6 Keyword Generated from Ilyas' (2015) Framework

The keywords described in Figure 2.6 are generated by analyzing and synthesizing the existing frameworks by different scholars in different contexts. These frameworks have been approved to be applicable in different empirical studies. Moreover, they are all suitable for developing the critical thinking skills of students by

using different reading passages. The following are the coding guidelines for an analytical framework, based on Bloom's revised taxonomy (2001).

Table 2.4 Coding Guidelines for Reading Comprehension Questions for Critical Thinking Skills

Bloom's Revised Taxonomy (2001)	Types of Questions that probe	Coding for Analytical Framework
Remembering	Remembering	Q1
Understanding	Understanding	Q2
Applying	Agreement/Disagreement	Q3
	Prediction	Q4
Analyzing	Assumption	Q5
	Reason & Evidence	Q6
Evaluating	Clarity	Q7
	Implication	Q8
	Perspective	Q9
	Summary & Conclusion	Q10
Creating	Question	Q11
	Creating	Q12

2.3 Reading Materials and Materials Development

Not only do instructional designs play a vital role in shaping the language competency of EFL learners, but learning materials also do the same in the EFL teaching-learning context. It is thought that materials mean only the form of printed versions, but Tomlinson (2011) sees materials in broader ways, defining materials as “anything which is used to help language learners to learn. Materials can be in the form, for example, of a textbook, a workbook, a cassette, a CD-ROM, a video, a photocopied handout, a newspaper, or a paragraph written on a whiteboard: anything that presents or informs about the language being learned”. He also sees material development as a practical scholastic study, which involves three branches: materials analysis, material evaluation, and material development. According to Tomlinson (2011), material

analysis is to find out “what” materials have, give to learners and teachers, and have learners do, while material evaluation investigates “to what extent” the activities and the tasks in materials provide to some kind of skills (Tomlinson, 2019). Material analysis is objective, but material evaluation is subjective. There are three subfields in material evaluation. They are pre-use, in use, and post-use. Tomlinson (2019) said post-use material is more “demanding” than the other two types, which are subjective. Material development is creating a new learning material. The two things: what type of content and what type of pedagogical approach, are needed to consider in developing materials. According to Tomlinson (2019), eight contents will drive the materials: grammar and lexis, micro skills or macro skills, specific communicative competencies, preparation for the exam, content, language integrated learning, topic or theme, task, and test. Presentation, practice, and production (PPP), discovery, immersion, CLIL, task-based language teaching (TBLT), and task-driven learning are the approaches to be taken into account when developing learning material.

In developing course development or materials development, Macalister and Nation (2020) proposed a framework for a cyclical process of developing materials. Richards (2001) contended that developing materials involves complex stages such as conducting needs analysis, designing the materials, implementing the materials, and seeking their effectiveness in the real context. Models for developing materials, such as the ADDIE model, Dick and Carey’s (1985) model, Jolly and Bolitho’s (2011) framework for materials development, and Latief’s (2014) model. The ADDIE is the most popular model in creating materials (Satriyana et al., 2013). This model is composed of four major stages: Analysis, Design, Development, and Implementation. Learners’ profiles, needs, and problem statement are investigated in the Analysis stage. To be precise, needs analysis, task analysis, and job analysis are conducted to inform the Design and Development Stages. The Design phase arranges approaches for developing materials, while the Development phase produces the first draft of the materials. The final draft is tried out in the Implementation phase, followed by either a summative or a formative Evaluation stage. The next common model is Dick and Carey’s (1985) model, which is composed of ten stages: investigating teaching aims, conducting the teaching analysis, doing analysis of students and background contexts, noting down the objectives of tasks, designing evaluative items, designing and choosing

materials, carrying out a formative evaluation process, doing a revision of instruction and carrying out a summative evaluation process. The stages in Dick and Carey's (1985) model are found to overlap with stages in ADDIE. The first three stages of analysis are similar in nature to the Analysis Phase, while the Design and Development phases cover the five stages, starting from noting down the objectives of tasks to selecting the materials. The final stages correspond to the Evaluation phase. Jolly and Bolitho's (2011) framework for materials development has nine stages, starting from the identification of needs to the evaluation of the materials (Jolly & Bolitho, 2011). Latief (2014) also proposed that needs analysis should be done first to inform the development of the prototype, which will be evaluated by experts. Then, the field test, followed by revision, will lead to the dissemination stage. Compared to the rest, Latief's (2014) model is more convenient and adaptable in different contexts. These models' stages and processes overlap and correspond to each other. In addition, they have contributed theoretically and pedagogically to developing materials in the EFL contexts. However, as the EFL context is always growing and moving towards a new paradigm, an updated version of materials development is demanded to have an alignment with the trending issues.

Table 2.5 Comparison of EFL Materials Development Models

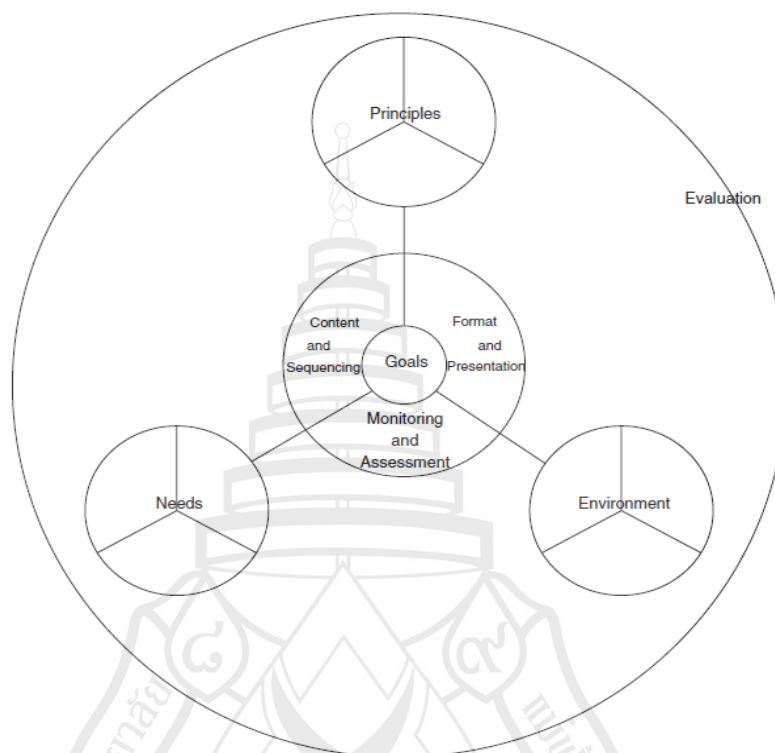
Features / Steps	ADDIE	Dick and Carey (1985)	Jolly and Bolitho (2011)	Latief (2014)	Macalister and Nation (2020)
Needs / Context Analysis	✓	✓	✓	✓	✓
Environment / Context Analysis		✓	✓		✓
Define Goals / Objectives	✓	✓	✓	✓	✓
Select Content / Materials	✓	✓	✓	✓	✓
Design / Plan Activities	✓	✓	✓	✓	✓
Develop / Draft Materials	✓	✓	✓	✓	✓
Try Out / Pilot Testing		✓	✓	✓	✓
Expert / Peer Validation			✓	✓	✓
Revise / Modify Materials		✓	✓	✓	✓
Implementation in the Classroom	✓	✓	✓	✓	✓

Table 2.5 (continued)

Features / Steps	ADDIE	Dick and Carey (1985)	Jolly and Bolitho (2011)	Latief (2014)	Macalister and Nation (2020)
Monitoring & Assessment				✓	✓
Evaluation (Formative / Summative)	✓	✓	✓	✓	✓
Linear / Top-Down Structure	✓	✓			
Cyclical / Adaptable Structure			✓	✓	✓
Suitable for PAR					✓

As shown in Table 2.5, the ADDIE model and Dick and Carey (1985) are suitable for linear or top-down process while Jolly and Bolitho (2011), Latief (2015), and Macalister and Nation (2020) are applicable for cyclical and adaptable studies. However, Macalister and Nation's (2020) framework for Language and Curriculum Design emerges as an appropriate and flexible framework for this study. In addition, implementing and interpreting the guiding principles of the policy into instructional materials to guide teaching and learning processes are included in designing curriculum (Richards, 2013). The principles in materials development, which include needs analysis, selecting content, deciding the pedagogical approach, writing a sample, evaluating, and doing assessment, reflect the components of Macalister and Nation's (2020) framework for Language and Curriculum Design (Tomlinson, 2011, 2019). Not only is this framework more adaptable and cyclical than the rest, but it is also suitable for the Participatory Action Research (PAR), as it reflects the principles of PAR: planning, developing, implementing, and evaluating (Kemmis & McTaggart, 2005). Although Macalister and Nation originally proposed this framework for language and curriculum design, it is also applicable for the materials development since the development of materials is a nonintegrable part of the curriculum, reflecting similar features in selecting contents, sequencing tasks, presenting, formatting, and assessing. The framework for Language and Curriculum Design is composed of seven components: (1) environment analysis, (2) needs analysis, (3) principles, (4) goals and

objectives, (5) content and sequencing, (6) format and presentation, (7) monitoring and assessment, and (8) evaluation (Macalister & Nation, 2020). These components are shown in Figure 2.4.



Source Macalister and Nation (2020)

Figure 2.7 Seven Components in Framework for Language and Curriculum Design

These seven elements are interconnected and interrelated, making sure that the developed program or materials are theoretically, pedagogically, and empirically strong. The first component is Environment Analysis, which considers the issues of the condition where the materials will be implemented and decides how the materials should reflect (Macalister & Nation, 2020). Environmental analysis can be conducted through collecting data from language policy, language-in-education policy, or education policy (Macalister & Nation, 2020). Needs analysis is another significant part of the framework. Needs analysis can be conducted through collecting data from evaluating and analyzing coursebooks, guidebooks, teachers' interviews, and their reflections. For this study, the environment analysis and needs analysis are adapted into Phase 1: the Preliminary Study Phase to investigate the current state of critical thinking

skills manifested in the reading materials of the extant English coursebooks for upper secondary students in Myanmar. In Phase 1, education policy papers like the National Education Law (2014), NESP (2016-2021), and CESR papers will be reviewed to address Environment Analysis, and the extant English coursebooks will be analyzed for the needs analysis phase. The third and fourth components of the framework fall into Phase 2: the Development of English reading materials: the investigation of the components of English reading materials to enhance the critical thinking skills of EFL upper secondary students in Myanmar using Participatory Action Research (PAR). In phase 2, through the principles of PAR, teachers will co-develop reading texts to promote critical thinking skills of students, reflecting the principles, goals, contents, and sequencing of tasks for the materials. In this study, these principles inform the systematic development and evaluation of the reading materials. For example, principles such as frequency, teachability, and interference guide the selection and sequencing of reading texts and tasks to ensure that language items and thinking skills are introduced progressively and in cognitively manageable ways. The principle of spaced repeated retrieval is reflected in the recycling of critical thinking tasks across units. In terms of format and presentation, principles such as the four strands, comprehensible input, output, and fluency ensure that reading materials integrate meaning-focused input with opportunities for discussion, written responses, and reflective thinking. Principles such as motivation, depth of processing, and learning preferences guide the design of engaging and cognitively demanding tasks that foster higher-order thinking. For Phase 3, the monitoring and assessment principles are operationalized through ongoing needs and environment analysis and feedback. Classroom observations and teacher interviews provide continuous evaluation of how the materials function within the specific educational context, while teacher and student feedback inform revisions. In this way, monitoring and feedback mechanisms ensure that the developed materials remain contextually responsive, pedagogically sound, and effective in enhancing students' critical thinking skills.

The advantages that this framework contributed are having a balanced four-strand framework: meaning-focused input, language-focused learning, meaning-focused output, and fluency activities (Macalister & Nation, 2020). These four strands are important for the development of language and communication skills of learners

(Nation, 2007). Since this study is to develop materials for the enhancement of cognitive development through the language input, particularly reading, the framework bridges the relation between the language input and cognitive development, providing opportunities for embedding critical thinking-based activities in language inputs. The TATE model, which is composed of four elements– Text, Analysis, Task and Exploration, proposed by Anderson (2020), corresponds to four strands of Macalister and Nation (2020). The first two elements, Text and Analysis, relate to the two strands of meaning-focused input, language-focused learning, while the Task and meaning-focused output, and fluency activities can be embedded in the Exploration element. Pre-text activities, including vocabulary pre-teaching or discussion to stimulate learners' schema, are in the stage of tasks like written or audio texts (Anderson, 2020). These principles align with the existing coursebooks and most EFL coursebooks. In addition, the analysis stage encourages students to notice or be aware of collocations and chunks of words related to the text, reflecting the practice stage of the “PPP” language teaching approach (Dekeyser, 2015, as cited by Anderson, 2020). In the task element, learners are expected to do lexical and language features exercises, which are similar in nature to meaning-focused output, one of the principles in Macalister and Nation's (2020) framework. The exploration stage can be done with students, focusing on students' comprehension of the text. The TATE model can be assumed to be a unit or lesson-level framework, while Macalister and Nation suggested their framework for the whole course or material. Integrating each framework into another ensures that developing the materials is systemically sure, valid, and effective for learners.

Compared to the models by Nunan (1988), Graves (2000), and Richards (2001), Macalister and Nation's (2020) framework for Language and Curriculum Design sees monitoring the materials and evaluating them as an interrupted procedure, providing an important element for this PAR, Research and Development (R&D). Compared to R&D, the needs analysis stage is associated with the research and information phase (Borg & Gall, 1983). The extant coursebooks will be analyzed to investigate opportunities for cognitive development, with the results informing the development of materials. They are consistent with the planning and development of an initial draft of the materials. The rest stages in Borg and Gall (1983) align with the monitoring and evaluation phases of this study, where teachers will provide feedback to inform the

revisions. In addition, since this framework also includes flexibility for institutional constraints contexts such as Myanmar, empowering teachers as both materials developers and evaluators is ensured. Therefore, Macalister and Nation's (2020) framework provides a theoretical support for this study.

Types of Reading Texts and Critical Thinking

Many scholars in reading are in common perspectives that there are two major types of reading comprehension texts: "narrative and exposition" (Avaloz, Plasencia, Chavez, & Rascon, 2007; Gaddy, Bakken, & Fulk, 2008; Grabe, 2008; Koda, 2007; Sidek, 2012). According to Gurney, Gursten, Dimino, and Carnine (1990), and Zhang and Hoosain (2001) as cited by Sidek (2012), narrative texts are different from exposition in that the former includes characters, settings, and problems or conflicts, while the latter is solely information and aims to provide knowledge. On the other hand, Freahat and Al-Faoury (2015) proposed that there are four types of reading texts: adding argumentative and persuasive to the two types by Sidek (2012): narrative and exposition. Unfortunately, they failed to discuss more about the texts of argumentative and persuasive. However, they finally concluded their studies that the narrative and exposition are more dominant than argumentative and persuasive in their selected materials. Both of the studies by Sidek (2012) and Freahat and Al-Faoury (2015) tried to find out the types of texts in their respective contexts: Malaysia and Jordan. Both of them found that narrative texts are the main type of reading texts in their selected materials. But, Magnusson (2021) commented on the findings that "descriptive texts are a type of narrative text". Magnusson (2021) studied "Blueprint A, Solid Gold and Engelska 5 & 6: Outlooks on", using it to study which text genres are included in these three books. 24 types of genres: "part of novel, letter & email, biographies, factual text, article, opinion article, short story, personal narrative (diary, blog), poetry, summary, response paper, opinion essay, dictionary, comic strip, lyrics, manuscript, response to lit/film, instructions, project, summary commentaries, report, syllabus, manuals, and other" Magnusson (2021), are formulated. But it is unknown on which criteria these 24 types of genres are categorized. However, it was found out that all of these three selected materials encourage lower-order thinking skills of students, while none of them provide chances to practice higher order of thinking skills or critical thinking skills. All types of reading texts by different scholars may be different in their nature. However,

to synthesize all of these text types (Sidek, 2012; Freahat & Al-Faoury, 2015; Magnusson, 2021), they normally fall into the types of texts by Khatib and Alizadeh (2012). They mentioned only two types of reading texts in their studies: literary and non-literary texts. They commented that reading materials in non-critical reading classrooms are only “life stories, scientific articles, and passages that have the potential to encourage learners to think critically” (Khatib & Alizadeh, 2012). They studied two groups of students, employing literary texts in one group while non-literary texts in another group, but the same teaching method was used. After 7 days of studying, they finally found that “literary texts much more properly lend themselves to critical thinking and reading comprehension development” (Khatib & Alizadeh, 2012). In addition, Ilyas (2015) studied elements of critical thinking skills represented in Indonesian ELT textbooks and found that reading comprehension questions following literary texts fall into the analytical categories, which have more potential to promote critical thinking skills of students. Ilyas (2015) results and findings confirm the fact found by various scholars, including Khatib and Alizadeh (2012), that the use of literary texts in the ELT textbooks enhances the development of critical thinking skills of students.

All in all, many scholars have mentioned different types of reading texts. However, there is a commonality that all types of reading texts technically fall into two major types of literary and non-literary. Literary texts are more common than non-literary texts in reading comprehension texts. Besides, there is research conducted that literary texts are more promising in promoting critical thinking of students, providing the fact literary texts should be included in reading materials for critical thinking skills.

2.4 Research–practitioner Collaboration in Educational Design

Not only in educational research but also in EFL/ESL/ELT/TESOL research, it has been calling for the collaboration between researchers and practitioners. Sustaining an educational innovation and a pedagogical reform will not be effective if research continues to drive practice alone. Furthermore, recent studies highlight the persistent gap between research and practice (McKinley, 2019; Rose, 2019; Li & Gao, 2025). As a response to that long-standing gap, research studies have suggested the collaboration

between research and practice. Coburn, Penuel, and Geil (2013) define collaboration as a partnership between research and practice for collaboratively producing knowledge. The research-practice partnership (RPP) focuses on long-term practical issues, committing to mutualism, adopting deliberate approaches to develop the partnership, and generating unique results (Coburn, Penuel, & Geil, 2013)

While research-driven studies hold the assumption that practitioners should be informed through research for pedagogical innovations, practitioners become distanced from those findings, and the research agenda is disempowered (Rose, 2019). On the other hand, the researcher-practitioner collaboration recognizes the insights, knowledge, and experiences of practitioners in introducing a teaching transformation. In a research-practice partnership, practitioners are perceived to have valuable knowledge, and they are seen as co-researchers or co-designers of a reform rather than a passive implementer of a reform, highlighting the cycles of defining the problem, doing action, observing, reflecting, redefining, and redesigning (Penuel et al., 2015; Cornish et al., 2023). This emphasis on the interrelated cycles reflects the design and development-based nature of the Participatory Action Research (PAR). In addition, the nature of research-practice partnership aligns with some principles of PAR in education that teachers themselves should conduct the research, teachers should make decisions to develop their classroom and pedagogical practices, and teachers should be encouraged to see themselves as knowledge generators (Mills, 2011). Therefore, it can be assumed that the process and the principles of RPP and PAR are interrelated, overlap, and correspond to each other.

In developing materials and curriculum, the collaboration between the researcher and practitioners allow the research to be informed by practice and the practice to be informed by research. The recent literature on the nexus between researchers and practitioners has increasingly been calling for teaching-focused research and research-focused teaching (Rose, 2019; Li & Gao, 2025). This process is not only relevant for the context but also feasible for pedagogical innovations. Moreover, this collaboration narrows the consistent gap between theory and practice, ensuring the feasibility and sustainability of the interventions in local constraints, institutional policies, and learner needs (Penuel & Gallagher, 2017).

In education, teachers are active agents for a reform process since they are implementers of policy, materials, and interventions. Without the active participation of teachers, the validity, feasibility, and applicability of such innovations would be weakened. Consequently, the active participation of teachers is required for the sustainability of a particular reform. In developing materials to be used in their classrooms, the bottom-up process or the collaborative participation of teachers can ensure the alignment between the materials standards, assessment demands, and students' needs, can adapt the materials to their students' language level, can anticipate the challenges in implementation, and can develop the materials relevant to cultural and institutional constraints. In addition, the collaboration of teachers as co-researchers can develop ownership and ensure the successful implementation (Farrell, 2020). Meanwhile, it can also build the validity as the theoretical supports are discussed, interpreted, and applied through the collaboration between the practitioners and the researcher, ensuring the active role of teachers. Therefore, the collaborative process can increase the validity, applicability, and feasibility of an educational reform or a pedagogical innovation.

The bottom-up process of the teacher-research collaboration can address the top-down process's limitations, such as the resistance of stakeholders to the intervention and the failed implementation of the innovation. As Fullen (2016) points out in his study, the implementation of an educational reform in a context where teachers are perceived as passive implementers but not collaborators frequently ends with failure. In a top-down prevalent context, the implementation can be slow and uneven (South, 2024). Similarly, in EFL settings, the materials designed and developed through the top-down process, where the voices of teachers are not included, are unlikely to reflect the students' needs, wants, cognitive readiness, linguistic deficiency, and interests, leading to the risk of partial alignment between the transformational expectations and real practices.

The collaborative process, on the other hand, can increase the sustainability of the innovations and enable the classroom practices meet the goals of reforms. By adopting the RPP and PAR, teachers as practitioners can actively participate in designing a pedagogical innovation through a dialogue, reflecting their experiences, the nature of learners, tasks, and texts. This can result in the strengthening of the

relationship between the pedagogical practice and innovations. Moreover, the principles of revising and redesigning in PAR cycles can increase the adaptability and long-term viability of the intervention more than the developed materials coming from the top-down process.

Based on the theoretical principles of RPP and PAR, this study aligns with the nature of PAR, recognizing teachers as active co-designers rather than passive implementers. This PAR study allows the dialogue between the researcher and the practitioners, developing an intervention in a collaborative process through the principles of PAR. This PAR, which aligns conceptually with the theoretical support of the research-practitioner, can strengthen the validity and sustainability of the intervention, bridging the gap between theory and practice.

2.5 Conceptual Framework of the Study

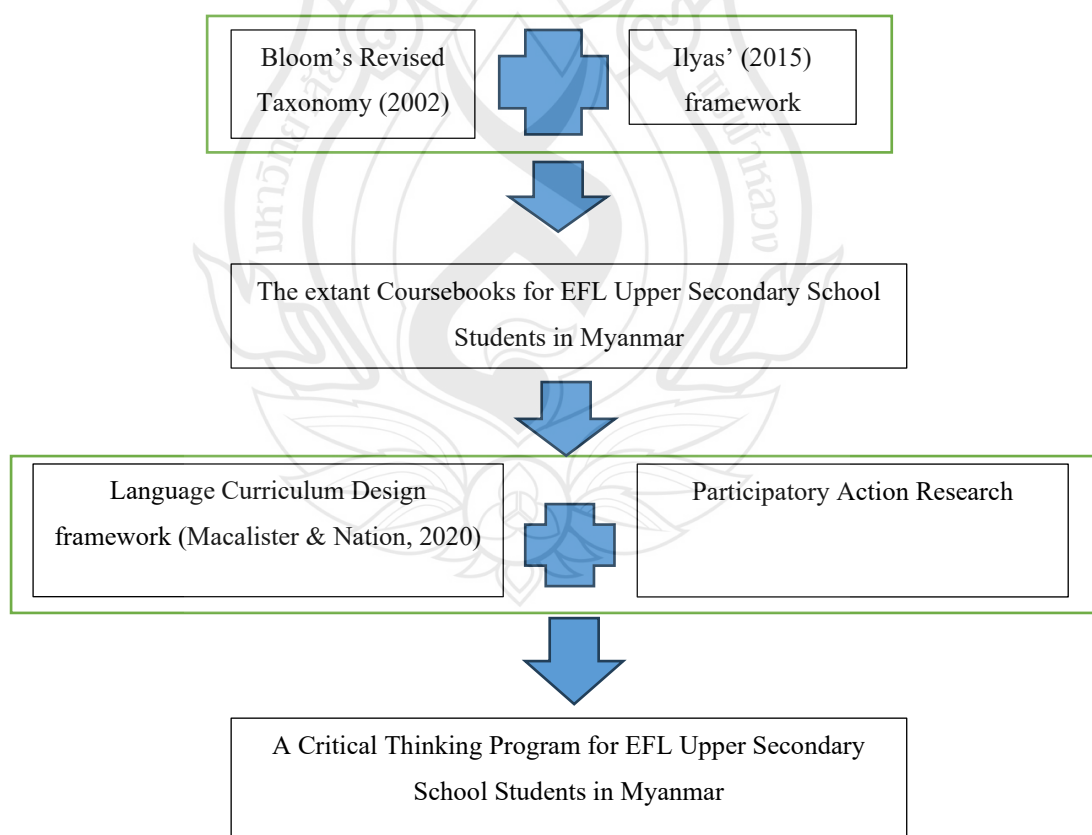


Figure 2.8 A Conceptual Framework of the Study

2.6 Related Studies

2.6.1 Studies of Critical Thinking in Myanmar EFL Coursebooks

Numerous local studies have investigated the opportunities for critical thinking in English coursebooks at different levels of education, ranging from secondary to tertiary levels. Most of the studies in Myanmar adopt Bloom's taxonomy (1956) and Bloom's revised taxonomy (2001) as analytical frameworks to study the critical thinking representation. The studies in Myanmar analyzed pre-reform Grade XI coursebooks. Ni Ni Aung (2013) studied pre-reform Grade XI coursebooks (1960-2010), employing Bloom's taxonomy (1956), and reported that lower-order thinking skills were more prevalent than higher-order thinking skills. The finding was echoed in the studies by Khine Myat Thwe Aung (2015) and Thanda Soe and Ni Ni Hlaing (2016), who employed Bloom's revised taxonomy (2001), and reported that the pre-reform English coursebook (2015-2016) for Grade XI provided fewer opportunities for critical thinking. Despite the differences in adopting the taxonomies, all of these studies reported the same finding that the lower-order thinking skills outnumber the higher-order thinking skills, giving very few opportunities for the critical thinking skills of Myanmar students at the Upper Secondary Level.

Kaung Myat San (2019, 2020) and Thiri Soe (2023) studied global EFL coursebooks for tertiary-level students. Kaung Myat San (2019, 2020) studied the thinking skills embedded in the reading activities of the coursebooks Global A2+ and Global B2, employing Bloom's revised taxonomy (2001), and reported that the global EFL coursebooks used in university-level education of Myanmar are dominated by lower-order thinking skills, providing limited opportunities for students to be exposed to thought-provoking tasks. In both of two studies, it was called for the teachers to create and use critical thinking-based questions for students. Similarly, Thiri Soe (2024) investigated the New Language Leader series (2010-2021) used in Myanmar universities, employing Bloom's revised taxonomy (2001). Thiri Soe's (2024) study also revealed the same finding that lower-order thinking outnumbered higher-order thinking skills in global EFL coursebooks.

Across these local studies on the representation of critical thinking in EFL coursebooks, the two patterns: the dominance of lower-order thinking skills and the widespread use of Bloom's taxonomies (1956, 2001), appeared. The local studies for cognitive skills align with the global trend reporting that the most frequent framework for critical thinking is Bloom's taxonomies (1956, 2001) (Soe, 2024). Therefore, Bloom's revised taxonomy (2001) emerges as a guiding theoretical framework for analyzing the current state of critical thinking skills in the extant coursebooks. In addition, most of the studies in the local context shed light on reading tasks and reading comprehension questions (Khine Myat Thwe Aung, 2015; Thanda Soe & Ni Ni Hlaing, 2016). It can be implied that reading tasks and reading comprehension questions can represent cognitive skills, and the relation between thinking and reading is significant. Though most of all studies in Myanmar focused on different education levels, no study is available on the coursebooks published after the introduction of the national educational law (2014), CESR, the National Education Strategic Plan, NESP (2016-2021) and only a few studies are available on how the practices in the real classrooms reflect the policy statements of educational reforms in Myanmar. Consequently, this study will address this gap by studying how the post-reform English coursebooks reflect the policy guidelines.

2.6.2 Studies of Critical Thinking in Regional EFL Coursebooks

In the regional context, studies on the representation of critical thinking skills employed Bloom's Taxonomy (1956) or Bloom's revised taxonomy (2001) or Ilyas's (2015) framework for critical thinking (Lan & Chern, 2010; Ilyas, 2015; Yulian & Tungka, 2018; Solihati & Hikmat, 2018; Kanokpermpoon, 2019; Shuyi & Renandya, 2019; Naseer, Muhammad, Masood, 2020). Employing a descriptive analysis, the studying of Taiwan college entrance examination papers from 2002 to 2006 were analyzed against Bloom's revised taxonomy (2001) revealed lower cognitive competencies were more demanded than critical cognitive abilities (Lan & Chern, 2010). Reading comprehension questions in different EFL textbooks used in Indonesian state high schools were also evaluated for critical thinking skills, using Bloom's revised taxonomy (2001) (Yulian & Tungka, 2018). Their study provided the surprising results that the reading sections in the government-sponsored textbooks provided higher-order thinking skills than commercially published coursebooks. This finding contradicts the

findings of Ilyas (2015), Solihati and Hikmat (2018) in the same context, whose content analysis data demonstrated a striking finding that English textbooks in Indonesia lack critical thinking tasks, calling for the revision of coursebooks and the training of teachers on modifying the tasks. Different frameworks result in different results. However, since Indonesia is a diverse nation, textbooks may be varied in different regions, showing different demands for cognitive skills. Using Bloom's revised taxonomy (2001), Kanokpermpoon (2019) analyzed a Thai university-level English coursebook, which was published after an education reform. The case study showed that critical thinking skills were limited (Kanokpermpoon, 2019). Singaporean secondary English coursebooks were also analyzed for critical thinking, employing Bloom's revised taxonomy (2001) as a guiding framework. That study finally proved that the selected coursebooks represent a well-balanced mix of lower-order thinking skills and higher-order thinking skills. However, in Pakistan, the qualitative content analysis data showed that secondary Pakistani studies books did not include chances for developing higher cognitive skills (Naseer, Muhammad, Masood, 2020). Also in regional level, empirical studies have been using Bloom's Taxonomy (1956) or Bloom's revised taxonomy (2001) or Ilyas's (2015) framework for critical thinking for evaluating coursebooks. However, no synthesis has been done on those three frameworks. Therefore, in this study, a synthesized version of those three frameworks will be used to ensure this investigation is theoretically grounded in reliable, valid, and commonly accepted frameworks by Bloom, Krathwohl, Anderson, and Ilyas. While Bloom's taxonomies are more than 70 years old, the frequent use of them shows that these two frameworks are still reflecting today's demands and needs, while Ilyas's (2015) framework is the most updated in critical thinking skills in EFL coursebooks.

2.6.3 Studies of Instructional Interventions on Developing Critical Thinking in EFL

Regional studies also investigated the effects of instructional interventions on developing critical thinking in diverse EFL contexts.

Regional researchers have tried various ways to foster critical thinking. (Liaw, 2007; Lin, 2014; Ilyas, 2015; Samarasinghe, 2017; Liang & Fung, 2020; Noorhapizah, Augusta & Pratiwi, 2020). Liaw's (2007) study showed that students' critical thinking can be developed through content-based reading and writing. It reinforced the fact that

critical thinking and language proficiency are interrelated and interdependent. Not only was the positive attitude of students towards the critical thinking enhancement activity found, but the critical thinking development of students was also evident. Lin (2014) revealed that infusing critical thinking into EFL classrooms is applicable and successful despite the controversial claims of inapplicability of critical thinking in Asian contexts. Also in her studies, the students provided positive feedback towards the critical thinking-based writing intervention. On the contrary, Ilyas (2015) witnessed students' improvement of critical thinking, using a modified reading text in English classrooms. It can be implied that both reading and writing can enhance the critical thinking skills of students, and vice versa. In addition, Asian students are interested in critical thinking-based reading and writing tasks and showed significant improvement in their thinking skills against misassumptions. A qualitative case study in Oman encouraged using open-ended questions, teacher modelling of approaches, and scaffolding tasks to foster critical thinking skills (Samarasinghe, 2017). The findings in the Omanese study are in alignment with the theoretical support by Paul (1990) and Halpern (1990). Liang and Fung's (2020) study also showed that students' critical thinking can be fostered through the use of explicit reasoning and exploratory talk, highlighting the significant connection between language proficiency and thinking skills development (Liang & Fung, 2020). Not only instructional intervention but also reading materials can enhance critical thinking. Developing critical thinking-based reading materials through Borg & Gall (1983) model showed a significant improvement in critical thinking between different students in controlled and experimental groups (Noorhapizah, Augusta, & Pratiwi, 2020). The use of folktales-based reading materials is another option to develop students' thinking abilities (Dragic, 2017). To sum up, the empirical studies show that the integration of critical thinking into the Asian EFL curriculum and fostering critical thinking through instructional models and materials are applicable and successful. However, either the developed models or the materials were developed by the researcher themselves. Compared to material development, studies on developing instructional models are more prevalent. Besides, the role of teachers in developing materials for critical thinking or empowering teachers as material developers for cognitive improvement is still underexamined. Therefore, in this study, participatory action research (PAR) will be employed to empower teachers as materials developers.

2.6.4 Participatory Action Research in EFL and Materials Development

In both education and EFL contexts, Participatory Action Research (PAR) has emerged to sustain an educational reform. Various studies, such as Qumivutia (2015), Widodo (2015), and Anderson (2021), have employed PAR to bring sustainable innovation to different language educational contexts, positioning teachers and students as co-researchers in innovation. Based on the interactive cycles on PAR: planning, doing action, doing observation, and reflecting, it is aimed not only to develop the practices but also to enable participants as active agents of the transformation.

In English for Specific Purposes (ESP) contexts, Widodo (2015) conducted a 13-month study in an Indonesian vocational school, employing PAR to develop the materials based on Systemic Functional Linguistics (SFL). The PAR involved administrators, teachers, vocational instructors, and students to collaboratively design and implement text-based vocational materials. The study showed that the collaborative development of materials not only encouraged active engagement of students with authentic English texts for Specific Purposes but also fostered teachers' professional development on SEL-based pedagogy. In addition, Widodo's (2015) PAR study showed how PAR can be employed to bridge the gap between theory and practice in ESP contexts through context analysis, materials development, and implementation in classrooms. However, the theoretical foundation of Widodo's (2015) study was based on social semiotic theory rather than on cognitive developments of students in EFL settings.

On the other hand, Qumivutia's (2015) study showed how the collaboration could enable a literacy instruction informed by the personal, social, and vocational goals of participants. Based on adult literacy education, social theories on adult literacy, and L2 reading development concepts, the study adopted PAR to provide opportunities for literacy in community life for women who have limited formal education, highlighting the way PAR can enable the researcher and co-researchers develop a flexible, learner-centered curriculum through collaboration. However, this study does not emphasize the integration of critical thinking in EFL materials in institutionally constrained and conflict-affected contexts but focuses on literacy development as a contextual response.

Anderson (2021) carried out a PAR study in Indian secondary schools, involving eight teachers. A comparative case study was also integrated to report how pedagogical content, English proficiency, and building confidence of learners, which are common features among co-researchers. Despite not being a comprehensive PAR study, this study highlighted how the collaboration between the researcher and the co-researchers generated knowledge production and teachers' professional development.

Across three different PAR studies in different contexts, it was acknowledged that the APR can enhance the teachers' professional development, develop teachers' autonomy, and bridge the gap between theory and practice, demonstrating the benefits of collaborative development of curriculum and materials in ESP, literacy development, and teacher expertise. All of those studies confirm the adoption of PAR across different English language education contexts, empowering teachers and participants as active agents of the innovation and insightful co-researchers. However, in terms of theoretical foundation, PAR in the ESP context was based on SFL, while the two different PAR studies on adult literacy and teacher expertise. And, the employment of PAR to carry out a systematic integration of critical thinking into the EFL context remains unexplored. Moreover, in the local context of Myanmar, the study on how PAR can be used to collaboratively develop critical thinking-oriented materials for Upper Secondary EFL students is also limited, despite the potential of using PAR in English language education by previous studies. Therefore, this study adopts the PAR to fill the gap by using a synthesized critical thinking framework from Bloom's taxonomies (1956, 2001) and Ilyas's (2015) framework, not only to enhance the cognitive development of Upper Secondary EFL students but also to empower teachers as co-researchers and co-developers of the materials for the critical thinking program.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discusses the research design, the materials under study, the data collection processes, and the data analysis

3.1 Research Design

This study adopted a research and development (R&D) method informed by Participatory Action Research (PAR) to address the research objectives: (1) To investigate the current state of critical thinking skills manifested in extant English coursebooks in Myanmar (2) to develop a critical thinking program for EFL upper secondary school students and (3) to explore the affordances and challenges of implementing the critical thinking program reported by focal teachers. R&D is suitable for this study, as it does not seek to test or approve a theory or hypothesis, but rather to design, develop, and validate educational products (Borg & Gall, 1983).

To enhance contextual relevance and practical applicability, I integrated Participatory Action Research (PAR) into the R&D process. PAR ensures the collaboration between researchers and practitioners, enabling practicing teachers to participate actively as co-researchers. Through this collaborative process, upper secondary EFL teachers contributed their classroom experience, pedagogical knowledge, and contextual insights to the development and refinement of the reading materials, ensuring alignment with actual teaching and learning conditions.

Supporting a systematic and flexible approach to material development, I drew on the language curriculum design framework proposed by Macalister and Nation (2020). This framework has seven components: environment analysis, needs analysis, principles, goals, content and sequencing, format and presentation, monitoring and assessment, and evaluation. The rationale for selecting the framework by Macalister & Nation (2020) is that it addresses the structured approach yet in a flexible way to design the reading materials, and it is appropriate for the R&D of this study. This framework

informed the analysis of learning needs, the formulation of principles and goals, the selection and sequencing of content, and the evaluation of instructional materials. Rather than adopting the framework, I adapted it to inform the decision-making stages of the research.

In accordance with the research objectives and questions, the study was organized into three interrelated phases, each addressing a specific research question:

Phase 1: Needs Analysis and Textbook Analysis

This phase addressed Research Question 1 by examining the current state of critical thinking skills manifested in existing upper secondary EFL coursebooks. Qualitative and quantitative content analysis was employed to identify patterns, gaps, and areas requiring instructional enhancement.

Phase 2: Collaborative Development of Reading Materials

This phase addressed Research Question 2 by collaboratively developing English reading materials as a material-based critical thinking program. Semi-structured interviews and a series of workshops were conducted with upper secondary EFL teachers acting as practitioners to investigate essential material components, instructional strategies, and critical thinking tasks appropriate for the Myanmar EFL context.

Phase 3: Field Testing and Evaluation of the Materials

This phase addressed Research Question 3 by examining the affordances and challenges of implementing the developed reading materials in real classroom settings. Teachers were prepared to use the materials, after which classroom observations and post-implementation interviews were conducted to evaluate how the materials supported critical thinking and to seek the affordances and challenges reported by focal teachers.

By integrating R&D with PAR and structuring the study around the research objectives and questions, this research ensured methodological coherence, practical relevance, and strong collaboration between the researcher and practitioners. The design allowed the developed materials to be grounded in empirical analysis, informed by teacher expertise, and refined through authentic classroom implementation.

3.2 Phase 1: Needs Analysis and Textbook Analysis

3.2.1 Methodology

The aim of Phase 1 is to investigate the current state of critical thinking skills in the reading materials of the extant English coursebooks for upper secondary students in Myanmar. Qualitative content analysis was employed to examine the current state of critical thinking skills. To extract information from texts, there are many methods, like genre analysis, discourse analysis, and critical discourse analysis (Ilyas, 2015). These methods are rejected after reviewing the related literature (Rogers & Elias, 2012; Irwin & Hramiak, 2010; Ilyas, 2015). Genre analysis is for language, which is not relevant to phase 1. Discourse analysis is for linguistic context, while critical discourse analysis, as discussed in Ilyas's (2015) research, is to analyze the use of language in terms of socio-political situation and influence. Since these methods are not suitable for the nature and research question of Phase 1, content analysis emerges as the most appropriate method to answer the research question of the study.

Content analysis, according to Lune and Berg (2017), is "a careful, detailed, systematic examination and interpretation of a particular body of material in an effort to identify patterns, themes, assumptions, and meanings" (p.338). Bryman (2012) also defines content analysis as "an approach to the analysis of documents and texts (which may be printed or visual) that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner". Berelson (1952), as cited in Bryman (2012), sees content analysis as "a research technique for the objective, systematic and quantitative description of the manifest content of communication" (p.289). Content analysis is advantageous for the qualitative researcher since it is transparent, cost and time-saving, flexible, and effective (Babbie, 2008 & Bryman, 2012). Content analysis has two different dimensions in research methods: qualitative and quantitative. Qualitative content analysis is a systematic way to evaluate texts or materials by finding certain features or patterns of meaning, while quantitative content analysis focuses primarily on measuring the contents of texts or materials (Krippendorff, 2004; Bryman, 2012). This phase, however, focused more on the qualitative approach, and the acquired data were qualitative. To compute the frequency

and percentage of cognitive skills in the data sheet checklist and to present the data statistically, a quantitative approach was also employed.

3.2.2 Materials under Investigation

Since the first research question is mainly concerned with the study of coursebooks, the extant upper secondary level EFL coursebooks, which are based on the NESP (2-16-2021) and the National Curriculum Framework (5th version), were selected to study in this research, as shown in Table 3.2. Myanmar's Education system follows the K+12 system, and it can be classified into three groups: primary (KG to Grade 5), secondary (Grades 6 to 9), and upper secondary (Grades 10 to 12). Among them, the upper secondary level is the most important level for Myanmar students since this level opens the gate towards tertiary education. There are three grades in the upper secondary level: Grade X, Grade XI, and Grade XII. Grade X is a foundation for Upper Secondary, and it serves as a transition from Secondary level to Upper Secondary. Grade XI and Grade XII are the preparation courses for the university level. Students are offered four different options: Science, Combined Science, and Pure Arts. However, the same English coursebooks are prescribed for use across all majors. In this study, three coursebooks are selected because they are currently being used at all Upper Secondary Schools in Myanmar for teaching English as a Foreign language. Besides, they are published and approved by the Basic Education Textbook and Curriculum Committee, the Basic Education Council, Ministry of Education of Myanmar.



Figure 3.1 Covers of the Materials Under Investigation, the EFL Coursebooks for Grades X, XI, and XII

Table 3.1 List of Materials Under Study

Sr. No.	Name of the Materials	Publisher
1.	Grade X EFL Coursebook	Basic Education Textbook and
2.	Grade XI EFL Coursebook	Curriculum Committee, Basic
3.	Grade XII EFL Coursebook	Education Council, Ministry of Education

Each book consists of 12 units, and they all cover the receptive skills and the productive skills of students. Besides, grammar lessons are additionally integrated into each unit for the grammatical knowledge of upper secondary students. In the national curriculum guidelines (5th version), it is described that “teaching of the 21st-century skills (including critical thinking skills) is arranged either by integrating it in relevant subjects in the curriculum or by including some contents as separate units in relevant learning areas”. Besides, it is also mentioned in the teacher’s guides that critical thinking and problem-solving are integrated into each lesson.

3.2.3 Research Instrument: Data Sheet Checklist

A data sheet checklist was used to collect the data for the second research question. The items in the data sheet checklist are based on the result of analyzing and synthesizing Bloom’s Taxonomy (1956), the revised taxonomy (2001), and Ilyas’ (2015) framework for critical thinking. As shown in Table 3.2. The first column mentions the cognitive skills in Bloom’s Taxonomy (2001), the second column mentions the types of questions that fall into each cognitive skill of Bloom’s Taxonomy (2001), and the third column mentions the coding for the analytical framework.

Table 3.2 Coding Guidelines for Reading Comprehension Questions for Reading Parts

Bloom’s Taxonomy (2001)	Types of Questions that probe	Coding for Analytical Framework
Remembering	Remembering	Q1
Understanding	Understanding	Q2
Applying	Agreement/Disagreement	Q3
	Prediction	Q4
Analyzing	Assumption	Q5
	Reason & Evidence	Q6

Table 3.2 (continued)

Bloom's Taxonomy (2001)	Types of Questions that probe	Coding for Analytical Framework
Evaluating	Clarity	Q7
	Implication	Q8
	Perspective	Q9
	Summary & Conclusion	Q10
Creating	Question	Q11
	Creating	Q12

The coding guidelines for questions contribute to the elements in the data checklist sheet to collect data from the selected EFL textbooks (2021-2023). The data sheet checklist is shown in Table 3.3. As shown in Table 3.3, the first column denotes the name of the materials under investigation, and the unit in the second column refers to the coursebook unit (Unit 1-12) in which questions were studied. The second column has 12 sub-columns, and each sub-column refers to the questions that probe remembering, understanding, agreement/disagreement, prediction, assumption, reason & evidence, clarity, implication, perspective, summary & conclusion, question, and creating.

Table 3.3 Data Sheet Checklist for Critical Thinking Skills

Location		Types of Questions											
Book	Unit	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12

3.2.4 Data Sources

Both qualitative and quantitative methods were used to collect data from the selected materials. First of all, the qualitative approach was employed to study the selected materials against the data sheet checklist. The reading texts and the reading comprehension questions in the selected EFL textbooks were coded based on the coding guidelines as shown in Table 3.3. Then, the reading texts and reading comprehension questions were calculated in a sheet. There are 36 reading texts (N=36) and 377 reading comprehension questions (n=377). Each text and each question was thoroughly read to

check which probe and which types of questions. The reading texts and reading comprehension questions were analyzed against the data sheet checklist. The acquired data were transformed into percentages and frequencies through the use of descriptive statistics and graphical representations.

3.2.5 Data Analysis

Data Analysis in Phase 1 included a systematic multi-step process combining both qualitative coding and descriptive quantitative analysis. First of all, I carried out a thorough reading of each reading text in three selected coursebooks and their reading comprehension questions. Then, each question was studied individually, and they were coded based on the analytical framework described in Table 3.3. The primary cognitive demand of each question guided the coding decisions. For example, a question such as “When does a child begin to read and write?”, which is a reading comprehension question from Unit One, was coded as Q1 (Remembering), while a question such as “Why do we use gestures when we speak?” from Unit 1 was coded Q2 (Understanding) and questions such as “Do you like paintings that capture the beauty of nature or portraits? Why?” and “Should graffiti artists be allowed to write or draw on walls or surface within public view? Why or why not?” were coded as Q9 (Perspective). Secondly, the frequencies of each question type (Q1-12) were calculated after the qualitative coding process, transforming the qualitative data into quantitative data. This process allowed me to compare across grades and identify dominant and underrepresented critical thinking skills. Then, to describe the proportional distribution of different types of critical thinking questions across the three selected coursebooks, percentages of the questions were computed, and the result was mentioned in the charts to facilitate interpretation.

3.3 Phase 2: Collaborative Development of Reading Materials

3.3.1 Methodology

The second phase focused on developing English reading materials for the enhancement of critical thinking development of Upper Secondary EFL students in Myanmar. This Phase was informed by the findings of Phase 1 and guided by

Participatory Action Research (PAR), highlighting the collaboration between researchers and practitioners in addressing educational problems situated in real contexts.

According to Kemmis and McTaggart (2005), Participatory Action Research (PAR) allows participants to work collaboratively in finding ways to understand the world and participate in the process. Similarly, Stringer (2007) comments that PAR aims to make a positive contribution to the organizations and the communities of the participants, while Creswell (2018) suggests that PAR in education focuses on education systems, school organizations, and their stakeholders to improve their qualities. In this study, PAR was adopted to encourage practicing EFL teachers not merely as participants but as co-researchers actively involved in the design and refinement of reading materials.

In this study, PAR was adopted, based on two major rationales. Firstly, teachers are also required to create additional materials in case the provided materials fail to fulfill the needs of the learners. In other words, teachers are experienced material developers or course developers. Working with such a group of experienced teachers allowed the researcher to create more effective reading materials for the learners. Secondly, teachers are the ones who interact with their students, the classroom situation, and the nature of the existing coursebooks. PAR creates a good opportunity for the researcher to work with them in developing the reading materials. This ensured that the developed reading materials would meet the needs of the students and would be in alignment with the classroom situation and the nature of the existing coursebooks.

3.3.2 Participants and Recruitment Process

This Phase was conducted in Pyin Oo Lwin, a place considered appropriate for data collection, ensuring the safety of participants and their willingness to engage openly in collaborative research activities. There are 11 Basic Education High Schools (BEHS) and 11 BEHS (branches) with 38 EFL teachers currently teaching English at those BEHS and BEHS (branches). To recruit participants, a purposive, voluntary sampling approach was adopted in this study, and I invited all 38 EFL teachers from the selected schools and asked them to participate voluntarily as co-researchers in the collaborative process. The invitation included the explanation of the purpose of the study, the collaborative nature of PAR, the expected time commitment, and ethical

considerations, including voluntary participation and the right to withdraw at any time. Five teachers agreed to participate in this study, and they positioned themselves as both practitioners and co-researcher in this phase. The number of participants was determined based on 3 major reasons: (1) teachers' availability to attend a series of workshops, (2) their willingness to participate in collaborative development beyond their daily teaching loadings, and (3) practical limitations on time, workload, and context. A small group of committed participants is appropriate since the focus of PAR is on the depth of collaboration between the researcher and practitioners

3.3.3 Research Instrument: Semi-structured interview

A semi-structured interview was conducted with participating teachers to investigate their perceptions of the required components in the reading materials, effective teaching approaches for developing critical thinking in their learners, and their opinions on topics, themes, and text types that they find suitable for the reading materials. The semi-structured interview ensures comprehensive views on major domains of material development in addition to its allowance of flexibility for participants to share their ideas, experiences, and insights on materials. A semi-structured interview is shown in the Appendix.

3.3.4 Validity and Reliability of the Instruments

Three experts in ELT and materials development were asked to provide their feedback on the items in the semi-structured interview. The item of congruence (IOC) was used to calculate the validity. The criteria are +1= accepted, 0= revised, and -1= unaccepted. If an item gets ≥ 0.5 , it means it is accepted. If an item gets < 0.5 , it means it is unaccepted and it is to be revised. Based on the comments and criteria evaluated by the three experts, the items were revised.

3.3.5 Data Collection: Collaborative Workshops and Rapport Building

Data collection in Phase 2 was carried out through three collaborative workshops. Since rapport building and establishing relationships were significant in this phase, an effective collaboration between the researcher and practitioners was ensured throughout the process. Before the PAR process, I held an informal meeting with the participant to clarify roles, expectations, and the collaborative nature of this study. Throughout the PAR process, I took the role of a facilitator to encourage open discussion, valuing the practitioners' professional expertise.

Workshop 1: Collaborative Decisions on Role Negotiation and Components for the Materials

The focus of the first workshop was clarifying the roles of the co-researcher and identifying the components for the materials. Participants discussed limitations of the extant coursebooks in developing critical thinking skills, gaps identified in Phase 1, and their common challenges in their classrooms. Teachers were asked with guiding questions such as:

How confident are you in using the reading materials of the existing EFL textbooks to provide critical thinking skills for your students?

Have you ever adapted the reading materials in existing EFL textbooks to develop your students' critical thinking skills? How?

How much amount of time a week do you normally have for the reading lessons?

What activities, tasks, and exercises do you incorporate into the existing EFL textbooks?

Collaboratively, we discussed principles for the materials, including the activities to enhance the critical thinking development of their students.

Second Workshop: Collaborative Drafting

The focus of the second workshop was on collaboratively deciding the design of reading materials. Participants discussed the design of reading materials, and they collaboratively decided to develop reading texts and tasks. To guide the discussion, the following questions were asked to the participants:

What language features do you think we should include in our reading materials? For example, Vocabulary or grammar?

How can we make sure that the materials include language items in daily communications?

How many units should we include in our reading materials?

What text types should we include in our reading materials for critical thinking skills development?

What topics or themes do you think are the most relevant and engaging for Myanmar's upper secondary students?

What kinds of reading texts should you include? Should you include texts from international sources, local contexts, or both? Why?

According to the CEFR level, what level of difficulty in reading texts do you think is the most appropriate for EFL upper-secondary students? Why do you think so?

How should you sequence the tasks? Should easier tasks come before more complex ones? Why or why not?

These questions helped move the material design from lower-order thinking skills-based questions to tasks requiring critical thinking skills. In addition to focusing only on reading comprehension questions at the end of the reading texts, participants also discussed designing critical thinking activities at different stages of reading, such as pre-reading activities, while-reading activities requiring identification of assumptions or evidence, and post-reading activities involving critical thinking-based reading comprehension questions. Figure 3.2 mentions how teachers collaboratively designed the materials during the second workshop.

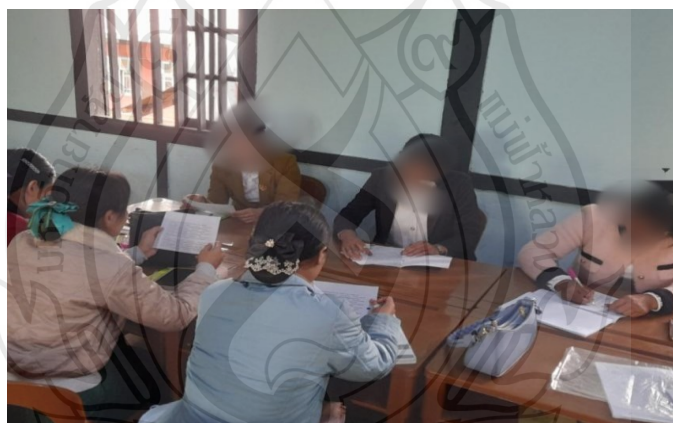


Figure 3.2 Teachers Collaboratively Designing the Materials During the Second Workshop

Third Workshop: Review, Revision, and Validation

The focus of the third workshop was to review, revise, and validate the developed materials. Participants reviewed and evaluated the instructions, critical thinking demands of tasks, and the feasibility of implementation in the real classroom. Revisions were made collaboratively, ensuring alignment with instructional goals and classroom realities. Figure 3.3 shows how teachers reviewed, revised, and validated the materials during the third workshop.



Figure 3.3 Teachers Reviewing, Revising, and Validating the Materials During the Third Workshop

3.3.6 Data Analysis

To ensure methodological consistency and transparency, the data from semi-structured interviews were transcribed and analyzed, adapting a thematic analysis proposed by Braun and Clarke (2019). Key themes identified through this thematic analysis are mentioned in detail in Chapter 4. The analysis is composed of six stages: (1) familiarization with data, (2) open coding, (3) category development, (4) theme construction, (5) collaborative validation, and (6) alignment of analytic outcomes with material design decisions.

1. Familiarization with Data

Interviews with the co-researchers were audio-recorded with their consent, and then the interview data were transcribed exactly. To get a comprehensive understanding of co-researchers' experiences, beliefs, and classroom practices, I thoroughly read the transcribed data. In addition, to get familiar with the data, I noted to document repeated ideas, shared concerns, and initial reflections of the co-researchers.

2. Open Coding

Employing an inductive approach, I conducted an open coding line-by-line and produced codes directly from the co-researchers' perceptions to keep the authenticity

of the data. For example, when a co-researcher defined critical thinking as “an important skill in the 21st century and a higher level of thinking skills”, I coded this as a higher-order thinking skill. When another co-researcher defined critical thinking as “a set of skills to evaluate, analyze, and create,” I coded this as an evaluation skill.

Statements indicating the lack of formal training as “No particular training session on critical thinking” and “No course only for critical thinking,” were coded as limited training on critical thinking.

Reports showing the nature of exam-based structure in the selected contexts were coded as exam-based culture. When a co-researcher said, “I revised some reading comprehension questions given in the texts”, I coded this as teacher-led revision. In collaborative planning, collaborative decisions such as revising the Grade X coursebook, modifying six units, adding one new unit with a literary text, focusing on the B1 level, and reflecting diverse cultures in Myanmar were coded as the revision code, the number of units for revision, language level, and task sequencing.

3. Category Development

After open coding, I categorized the related codes into different conceptual categories to help me move to analytical meaning. For example, codes related to the definitions of critical thinking were categorized into the co-researchers’ comprehension of critical thinking, while codes related to the limited training on critical thinking were categorized into the absence of training on critical thinking, and codes related to the lack of confidence in the extant coursebooks were categorized into the co-researchers’ perceptions on the coursebooks, codes related to the challenges they might encounter were categorized into Ministerial or Institutional Constraints, codes related to the collaborative planning decisions were categorized into emerging principles for materials development.

4. Theme Construction

Based on the categories, I developed broader themes, investigating the relations between different categories, and studied the dominant themes of the co-researchers’ shared experiences. The themes were the co-researchers’ comprehension of critical thinking, their perceptions of the extant coursebooks in terms of critical thinking, institutional constraints, and material design principles. The themes laid the foundation for the interpretation in Chapter 4.

5. Collaborative Validation

To reflect the iterative cycles of PAR, I shared the categories and the themes with the co-researchers before the beginning of the second workshop. The co-researchers were asked to check, provide feedback, and validate the data. If they needed to revise the data, the data were revised during the second workshop. This stage ensured the credibility and reliability of the data and enhanced the rapport and the relationship between the researcher and the co-researchers.

6. Alignment of analytic outcomes with material design decisions

The analyzed data of phase 2 also served as guiding principles for the material development. The results of analyzed data are that the Grade X coursebook was selected for revision, only six units from the selected book would be revised, a new unit would be added, the reading texts and follow-up reading comprehension questions would be rewritten, and pre-teaching vocabulary would be inserted, and the tasks would be sequenced from easy to challenging to scaffold students' learning and the visual support would be added to motivate students. In this way, the analyzed data informed the collaborative material development process.

3.4 Phase 3: Field Testing and Evaluation of the Materials

3.4.1 Methodology

The focus of Phase 3 is field testing and evaluating the developed English reading materials to study how the collaboratively developed reading materials could be implemented in reading classroom contexts and to find out their affordances and challenges in the implementation process. A qualitative case study approach was adopted in this phase to gain an in-depth understanding of how collaboratively developed reading materials supported the development of critical thinking skills during actual classroom.

In this phase, the trial implementation of selected units from the developed reading materials in real upper secondary EFL classrooms in Myanmar was carried out. Classroom observations and post-implementation interviews were employed in this phase to explore how the collaboratively developed materials were utilized, how critical

thinking activities were implemented, and how teachers and students responded to the materials during the implementation in the real-time classrooms.

3.4.2 Population and Participants

For the third phase, two focal teachers were purposively selected from the Phase 2 co-researchers. The selection was based on their different levels of engagement with the reading materials: (1) a teacher who reported using the reading materials extensively, (2) a teacher who reported limited or selective use. This contrasting selection was helpful to me in finding out how the affordances and challenges of the materials were influenced by variations in the implementation stage. Both of the two teachers voluntarily agreed to participate in classroom observations and follow-up interviews.

3.4.3 Research Instrument: Classroom observation checklist & Semi-structured interview

A classroom observation checklist was used during the field-testing phase to explore how the collaboratively developed materials were implemented in the classroom. The checklist covered teachers' utilization of the reading materials, students' engagement with the materials, and the overall effectiveness of the materials. Following the classroom observations, a post-implementation semi-structured interview was conducted with the two focal teachers to gather in-depth information on the affordances and challenges of using the materials in the classroom, reflecting their perceived strengths, challenges, and the feasibility of implementing the materials. Both the classroom observation checklist and semi-structured interview are mentioned in the Appendix.

3.4.4 Validity and Reliability of the Instruments

Three experts in ELT and materials development were asked to provide feedback on the classroom observation checklist and semi-structured interview. The item of congruence (IOC) was used to calculate the validity. The criteria are 1= accepted, 0= revised, and -1= unaccepted. If an item gets ≥ 0.5 , it means it is accepted. If an item gets < 0.5 , it means it is unaccepted, and it is to be revised.

3.4.5 Data Collection

Field testing was conducted through a series of classroom observations and follow-up semi-structured interviews. In this phase, two focal teachers, who actively

participated as the co-researchers in the collaborative development process, implemented two selected units from the revised reading materials for Grade X. These units were selected to represent different text types and task complexities to study how the revised materials could be implemented across different instructional conditions. Each focal teacher implemented the selected units within their normal teaching timetable. I carried out one classroom observation for each focal teacher separately, as their teaching timetables were at different times. Each classroom observation lasted for 45 minutes (One Full Teaching Time). During the classroom observations, to realize the interaction patterns during the class hour, how students respond to the revised tasks, and any observable development from lower-order thinking skills of remembering, understanding, and applying, and higher-order thinking skills of analyzing, evaluating, and justifying, I noted down the following:

- Each teacher's utilization of the reading materials

- How each teacher introduces the lesson using a brainstorming lead-in provided in the materials to encourage thinking practices

- How each teacher provides clear and comprehensible instructions as provided in the materials

- How each teacher encourages students to use the skills of analysis, evaluation, and inference during their reading lessons

- How each teacher facilitates strategies and uses scaffolding techniques

- Engagement of students in using the materials

- Evidence of Improvement of Critical Thinking skills of students

- Time management and the feasibility of the materials within the allocated lesson duration

After the classroom observations, I did two semi-structured interviews with the two teachers. With their consent, I recorded the audio. The semi-structured interviews investigated the following:

- Each teacher's reflections on the implementation of the revised materials

- Each teacher's perceptions of the effectiveness of developing critical thinking

- Each teacher's reflections on how his/her students reacted to the revised materials

- Each teacher's challenges during the implementation

Each teacher's suggestions for the improvement of the revised materials.

The recorded audio was transcribed exactly. The triangulation of classroom observations and the semi-structured interviews strengthened the credibility and reliability of the data (Creswell, 2014)

3.4.6 Data Analysis

To determine how collaboratively developed reading materials could be effectively implemented in the classroom and to examine the affordances and challenges of these materials, the data from classroom observations and interviews were analyzed, adapting the qualitative thematic analysis method by Braun and Clarke (2019).

For classroom observations, I read the data thoroughly and arranged them to find out the following patterns:

Critical thinking-based tasks implementation

Levels of students' engagement with the materials

Types of critical thinking skills demanded

Teachers' scaffolding strategies

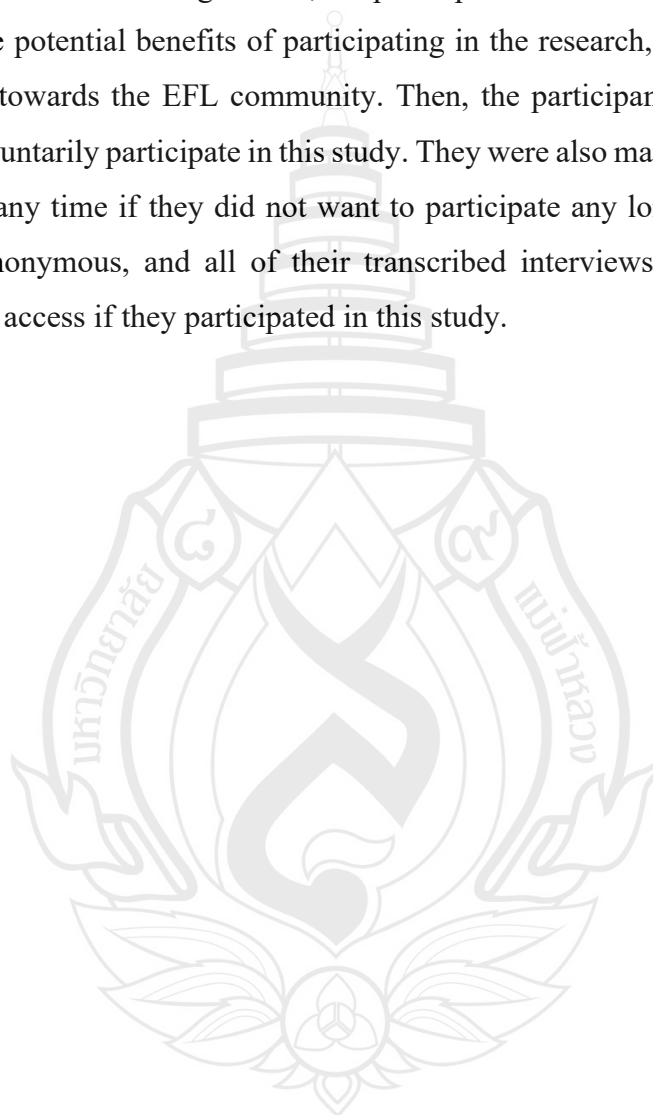
Duration of the class and the allocation of time

Then, the coding method was used to categorize into different groups, such as the effectiveness of the sequence of tasks, students' engagement with critical thinking-based tasks, the scaffolding approach of teachers, and time limitations. And, I investigated the repeated patterns across two observed lessons.

Using thematic coding, I analyzed the transcribed interview data to study the themes related to affordances and challenges: high usability of the materials, students' enjoyment of vocabulary exercises, enhancement of students' motivation and engagement, some students' resistance towards the revised material, cognitive demands, and the language barrier. These codes were then categorized into two major items: affordances and challenges. For the consistency between the data from classroom observations and the interviews, I compared the data and did a cross-check against each data. The phase 3 findings informed the final refinement of the materials, showing the complete process of the PAR cycles: problem, doing action, observing, reflecting, redefining, and redesigning (Penuel et al., 2015; Cornish et al, 2023).

3.5 Ethical Considerations

Before the start of the research, the research was submitted to the research ethics committee on human research to ensure the ethical integrity of the research process before the data collection stage. Then, the participants were informed about the aim of the study, the potential benefits of participating in the research, and the contributions of the study towards the EFL community. Then, the participants were asked if they wanted to voluntarily participate in this study. They were also made sure that they could withdraw at any time if they did not want to participate any longer, and their names were kept anonymous, and all of their transcribed interviews were kept from any unauthorized access if they participated in this study.



CHAPTER 4

FINDINGS

4.1 Introduction

This chapter presents and discusses the results of the three research questions: the current state of critical thinking skills manifested in the reading materials of the extant upper secondary English coursebooks in Myanmar (RQ1), the participatory development of the critical thinking program (RQ2), and the study of affordances and challenges of the program (RQ3). The findings indicate that lower-order thinking skills are prevalent in the extant English coursebooks (2021-2025), resulting in fewer opportunities for developing critical thinking skills. Furthermore, the extant English coursebooks are in partial alignment with the policy statements of the NESP (2016-2021) on critical thinking skills development. Then, a Participatory Action Research (PAR) involving 5 EFL teachers produced a culturally relevant and critical thinking skills-enhanced reading material, revising the extant EFL coursebook for Grade X students. Finally, the successful implementation of materials and teachers' reflections confirmed the affordances and challenges of the materials in developing critical thinking skills.

4.2 Findings of the Research Question 1: Investigation of the Current State of Critical Thinking Skills

Phase 1 was conducted to investigate the current state of critical thinking skills as manifested in the reading materials of existing upper secondary English coursebooks in Myanmar. The findings of Phase 1 were based on a content analysis of the extant English coursebooks prescribed for upper secondary students in Grades X, XI, and XII in Myanmar after the introduction of the education reforms in 2021. This section is divided into four parts: general descriptions of the selected coursebooks, types of

reading texts in the selected coursebooks, frequencies of reading comprehension questions in terms of question types for critical thinking, and a discussion section on the current state of critical thinking skills.

4.2.1 General Descriptions of the Selected Coursebooks

To have a better understanding of the nature of English coursebooks used in Myanmar, this section discusses the general descriptions of units and types of reading texts in the selected coursebooks. The coursebooks were designed and published by the Basic Education Council, Ministry of Education. Content analysis revealed similarities shared between the selected coursebooks. All of these English coursebooks are almost identical in general composition. Each coursebook is composed of 12 units, focusing on students' development of both receptive skills and productive skills. Each unit is categorized into five sections: (i) reading text, (ii) lexical knowledge, (iii) stylistic transformation, (iv) listening and speaking, and (v) writing. The reading section in each unit contains a reading text with diverse themes ranging from friendly to unfriendly and straightforward to complex. Moreover, the reading texts are followed by exercises to develop both language skills and the 5Cs of students. The lexical knowledge section is aimed at building up vocabulary, focusing on form and usage, while the stylistic transformation is aimed at helping students improve their accuracy in learning English. To enhance the development of students' productive skills, the listening, writing, and speaking sections follow at the end of each unit. In addition, there is a review section at the end of the three units. They cover drills on lexical and grammatical lessons in the previous three units. The review sections are to strengthen students' foundation of English from their primary and middle levels, to develop their language skills, and to provide students with exercises for practical use of the skills. Additionally, the creative and critical thinking skills are shed light on in the preface of each coursebook.

Despite the similarities in general composition, the topics, subjects, and themes in the selected coursebooks are diverse and heterogeneous. The Grade X coursebook emphasizes Myanmar Culture and STEM themes, covering typical Myanmar snacks and Thanakha and climate change, urbanization, and the food chain. Compared to the Grade X coursebook, the inclusion of Myanmar culture in the Grade XI coursebook is less. However, it expands the knowledge of regional and international cultures and the global issues, such as traveling in Southeast Asian countries, natural disasters, and

climate change. The Grade XII coursebook is designed to prepare students for university-level studies. What makes the Grade XII coursebook different from the rest of the books is that it covers more diverse themes, ranging from life skills-focused and academic skills-focused themes (e.g., Good Manners, Emotional Well-Being, and Key to Happiness) to modern trending issues (e.g., Artificial Intelligence, Renewable Energy, Pollution, Communication skills, and Intercultural Communication). For a complete list of the general composition of topics and units in the selected coursebooks, please see Appendix J. On the other hand, all of these selected coursebooks have one unit for literary studies. (e.g., A Prodigal Son, a biblical story in Grade X, the adapted version of “The Last Leaf” by O. Henry in Grade XI, and the short story “A Day’s Wait” by Hemingway and Grade XII). By considering those similarities and differences between the selected coursebooks, the following investigation aims to study the opportunities for critical thinking skills development in the post-reform English coursebooks (2021-2025).

4.2.2 Types of Reading Texts in the Selected Coursebooks

Although this section does not directly address the first research question, the findings in this section provide a comprehensive understanding of the relationship between types of reading texts and critical thinking skills development opportunities. The analysis revealed two main types of reading texts in the selected course books: literary texts and non-literary texts. Although both of them are effective in providing opportunities for critical thinking development, this study uncovered a contrast finding to the existing literature supporting the literary text’s significance in promoting critical thinking skills of EFL learners across different contexts. Ilyas stated that reading comprehension questions falling into literary texts have the potential to promote critical thinking skills of students (Ilyas, 2015). In addition, empirical studies by Khatib and Alizadeh (2012), Tabačková (2015), Shukri and Mukundan (2015), and Venugopalan (2019) also reported the same finding that literary texts are more effective in promoting critical thinking skills of students than non-literary texts. However, this study revealed that the reading comprehension questions in each literary text across the Grade X, Grade XI and Grade XII coursebooks were dominated by lower-order thinking skills. For a complete list of all survey questions, please see the Appendices K, L, and M. In Grade X, only 20% of the questions in the literary text, the Prodigal Son, contribute to

the critical thinking skills, while 80% of the questions cover lower-order thinking skills. Similarly, in Grade XII, the overwhelming majority of lower-order thinking skills were observed in the reading questions of the literary text "A Day's Wait," accounting for 90% of lower-order thinking skills and 10% of higher-order thinking skills. On the contrary, in Grade XI, a higher percentage of higher-order thinking skills was found. Despite a higher percentage of opportunities for higher-order thinking skills in Grade XI, it was found that the number of opportunities for students' critical thinking skills development was still unsatisfactory. Table 4.1. summarizes the frequency and percentage of literary texts or non-literary texts contributed to the extant upper secondary English coursebooks in Myanmar.

Table 4.1 Frequency and Percentage of Literary Texts and Non-literary Texts in the Extant Upper Secondary English Coursebooks in Myanmar

Books	Literary Texts		Non-literary Texts		Total
	Frequency	Percentage	Frequency	Percentage	Frequency
Grade X	1	8.33%	11	91.66%	12
Grade XI	1	8.33%	11	91.66%	12
Grade XII	1	8.33%	11	91.66%	12
	3	8.33%	33	91.66%	36

As shown in Table 4.1, in all three selected coursebooks, there are 36 reading texts, with 12 reading texts in each one. Each coursebook includes one literary text, covering only 8.33% of the total reading texts in each coursebook. However, non-literary texts were found to be covering 91.66% of each book. The diverse contribution shows that non-literary texts are more frequent than literary texts in the extant upper secondary English coursebooks.

4.2.3 Frequencies of Critical Thinking Skills in Reading Comprehension Questions

The content analysis revealed the frequencies of thinking skills in the Grade X coursebook range from 39 (30.46%) to 89 (69.53%). The findings showed that the frequency and percentage of lower-order thinking skills outnumbered higher-order thinking skills in the reading materials of the Grade X English coursebook in Myanmar.

In the Grade X coursebook, Q1 (remembering) was found to be the most dominant skill, while Q3 (applying), Q7 (clarity), Q11 (questioning), and Q12(creating) have no contribution in the Grade X coursebook. Figure 4.1, 4.2. and 4.3 show reading Comprehension Questions from different units of the Grade X English Coursebook.

B. Give a short answer to each question below.

1. When does a child begin to read and write?
2. What are the productive skills of language?
3. What are the receptive skills of language?
4. Why do we use gestures when we speak?
5. How do we help the reader understand what we write better?
6. What are the two forms of communication?
7. Do you want to learn any other foreign language apart from English? Why?
8. Which language skill is the most difficult for you to learn? Why?

Figure 4.1 Reading Comprehension Questions from Unit 1: Language of the Grade X English Coursebook

C. Give a full-sentence answer to each question below.

1. Which sentence tells you that *mont-hin-gah* is essential in almost every ceremony in Myanmar?
2. What ingredients are used to make *hta-ma-ne*?
3. What do we need in order to get perfect *hta-ma-ne*?
4. Why is *mont-lin-ma-yar* given that name?
5. What do we usually eat *bu-thee-gyaw* with?
6. Some make snacks to celebrate. Give an example of Myanmar tradition of snacking to celebrate.
7. What is the common ingredient of Myanmar snacks mentioned in the passage?
8. Do you like steamed glutinous rice? Give reasons for your answer.
9. Among the ingredients used in making *mont-hin-gah*, what do you think is the most important?
10. Out of the Myanmar snacks mentioned in the passage, which do you like most? Why?

Figure 4.2 Reading Comprehension Questions from Unit 7: Typical Myanmar Snacks of the Grade X English Coursebook

B. Answer the following questions in complete sentences.

1. How do plants make their food?
2. What is the difference between plants and animals?
3. What does the word "their" in line 4 refer to?
4. Unlike plants, what must animals do to live?
5. What animals do the cleaning up before the final cleaning up?
6. What does the word "These" in line 27 refer to?
7. What do decomposers do to what is left behind by insects?
8. In addition to squirrels, name two other animals that eat nuts.

Figure 4.3 Reading Comprehension Questions from Unit 8: Food Chain of the Grade X English Coursebook

Instances of Q1 (remembering) can be seen in the three following excerpts:

- (1) Coursebook : Grade X, Unit- Unit 1, Topic – Language (p. 2)
 Reading Text : Non-literary text about the purpose of language as skill, tool, form and function.
 Text : “When we are speaking or writing, however, we are producing language” (p. 2, 2nd paragraph, lines 13 to 14)
 Question : 4. What are productive skills? (p.4)
 Type of Question : Q1 (remembering)
- (2) Coursebook : Grade X, Unit- Unit 7, Topic – Typical Myanmar Snacks (p. 57)
 Reading Text : Non-literary text about some Myanmar snacks
 Text : “Hta-ma-ne is a mixture of glutinous rice, roasted sesame seeds, roasted peanuts, coconut slices, and a generous amount of cooking oil.” (p. 58, 5th paragraph, lines 30 to 32)
 Question : 4. What ingredients are used to make hta-ma-ne? (p.57)
 Type of Question : Q1 (remembering)
- (3) Coursebook : Grade X, Unit- Unit 8, Topic - Food Chain (p. 66)
 Reading Text : Non-literary text about the nature of the food chain
 Text : “All living things need food. Plants are living foods, so they are food. The question is Where do plants get their food from? Well, plants make their own food by using carbon dioxide from the air and water from the soil in the

presence of sunlight, as they possess green pigments.” (p. 66, 1st paragraph, lines 1 to 4)

Question : 1. How do plants make their food? (p.69)

Type of Question : Q1 (remembering)

The questions such as “What are productive skills?” (Grade X, Unit 1, p 4) “What ingredients are used to make hta-ma-ne?” (Grade X, Unit 7, p 57) and “How do plants make their food?” (Grade X, Unit 8, p 69) were found to fall into Q1(remembering), as these questions are asking how much information students can recall from the provided texts. Out of 128 reading comprehension questions in 12 units, 89 questions were found to fall into lower-order thinking skills, while only 39 questions were able to be counted as questions for critical thinking skills. To calculate in percentage, lower-order thinking skills occupied 69.53%, while 30.46% were for critical thinking skills.

An instance of Q9 (perspective) can be seen in the following excerpt:

(4) Coursebook : Grade X, Unit- Unit 1, Topic – Language (p. 2)

Reading Text : Non-literary text about the purpose of language as skill, tool, form and function.

Text : “The question ‘what is language?’ ...”(p. 1 to 4, lines 1 to 56)

Question : 8. Which language skill is the most difficult for you? Why? (p.4)

Type of Question : Q9 (perspective)

The question, such as “Which language skill is the most difficult for you? Why?” (Grade X, Unit 1, p 4) was counted as Q9 (perspective) as it asks learners to provide their personal viewpoints, ideas, and perspectives and encourages thinking critically (Ilyas, 2015). In addition, such questions fall into higher-order thinking skills since learners also need to support their answers by relating to the facts, and explaining the reason based on their personal knowledge and experience (Anderson & Krathwohl, 2001)

The data demonstrated that the occurrences of lower-order thinking skills were more frequent than higher-order thinking skills in the reading materials of the Grade XI English coursebook in Myanmar. The frequencies of thinking skills in the Grade XI

coursebook range from 71 (57.72%) to 52 (42.27%). It was revealed by the findings that Q2 (remembering) and Q6 (reason and evidence) are the most dominant skills, while Q7 (clarity) has no contribution in the Grade XI coursebook. Figures 4.4, 4.5, and 4.6 show reading Comprehension Questions from different units of the Grade XI English Coursebook.

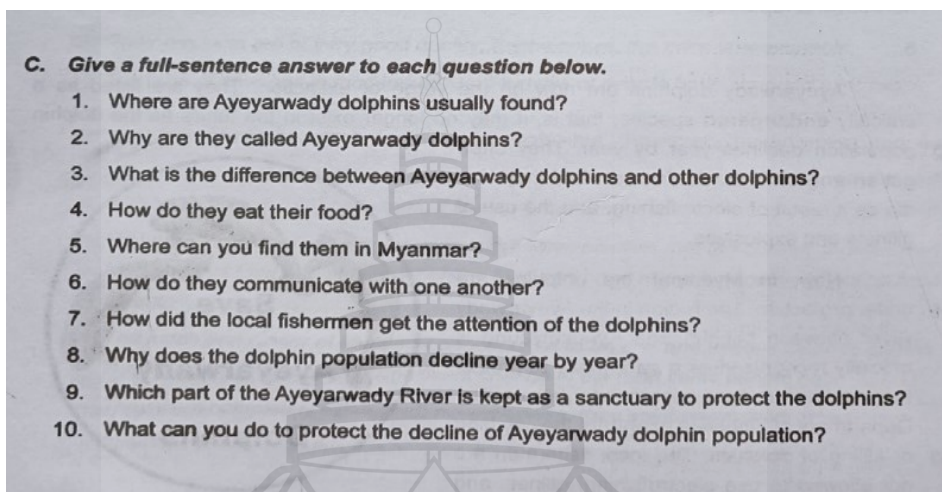


Figure 4.4 Reading Comprehension Questions from Unit 1: The Ayeyarwady Dolphins of the Grade XI English Coursebook

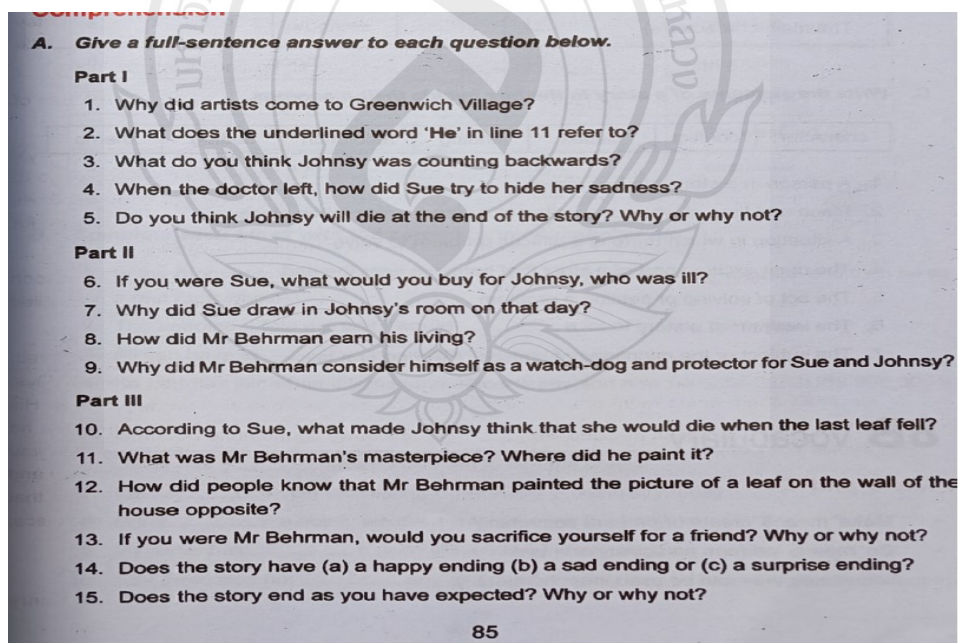


Figure 4.5 Reading Comprehension Questions from Unit 8: the Last Leaf of the Grade XI English Coursebook

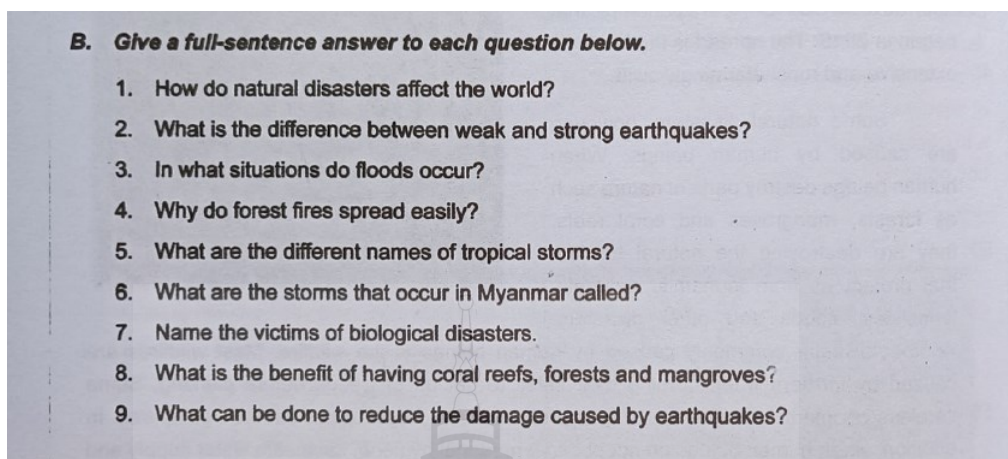


Figure 4.6 Reading Comprehension Questions from Unit 12: Natural Disasters of the Grade XI English Coursebook

Examples of Q2 (remembering), Q6 (reason and evidence), and Q9 (perspective) are shown in the following excerpts:

(5) Coursebook : Grade XI, Unit- Unit 1, Topic – The Ayeyarwady Dolphins (p. 2)

Reading Text : Non-literary text about the nature, characteristics, and habitats of The Ayeyarwady Dolphins

Text : “Dolphins of this type are usually found in coastal areas in South and Southeast Asia and in freshwater rivers in Myanmar, Indonesia and Laos.” (p. 2, 1st paragraph, lines 3 to 5)

Question : 1. Where are Ayeyarwady dolphins usually found? (p.4)

Type of Question : Q2 (remembering)

(6) Coursebook : Grade XI, Unit- Unit 12, Topic – Natural Disasters (p. 126)

Reading Text : Non-literary text about the Natural Disasters.

Text : “Most wildfires are caused by farmers when burning their fields to get rid of weeds before planting. Some careless people throw away burning cigarette butts or forget to put out their campfires.” (p. 2, 7th paragraph, lines 53 to 55)

Question : 4. Why do forest fires spread easily? (p.4)

Type of Question : Q6 (reason and evidence)

- (7) Coursebook : Grade XI, Unit- Unit 8, Topic – The Last Leaf (p. 81)
 Reading Text : A literary text about two young artists in New York
 Text : Adapted version of the Last Leaf by O. Henry (p. 80 -

84,)

Question : If you were Mr. Behrman, would you sacrifice yourself for a friend? Why or why not? (p.85)

Type of Question: Q9 (perspective)

The above-mentioned questions were taken as an example from Units 1, 8, and 12 of the Grade XI EFL coursebook. Excerpt 5 falls into Q2 (remembering), excerpt 6 falls into Q6 (reason and evidence), and excerpt 7 falls into Q9 (perspective). Q2 (remembering) and Q6 (reason and evidence) ask students to recall and provide reasons and evidence mentioned in the text.

Overall, the most demanded thinking skills in the Grade XI coursebook are the lower-order thinking skills, and the least demanded skills are higher-order thinking skills, distributing 57.72% and 42.27%, respectively. Compared to the data in the Grade X coursebook, the Grade XI coursebook was found to provide equal opportunities for both lower-order thinking skills and higher-order thinking skills.

It was indicated that the frequency and percentage of lower-order thinking skills dominate higher-order thinking skills in the reading materials of the Grade XII upper secondary English coursebook in Myanmar. Figures 4.7, 4.8, and 4.9 show reading comprehension questions from different units of the Grade XII English Coursebook.

D. Give a full-sentence answer to each question below.

1. What is a nutritious diet?
2. What should you eat to gain essential nutrients for your body?
3. What is a major cause of ill health?
4. How can you strengthen your immune system and protect against illness?
5. What kinds of food should you avoid eating?
6. Why are forests beneficial to us?
7. What can cause loss of biodiversity and loss of nutrition to many local communities?
8. Mention some nutrition-related health problems.
9. Why is nutrition said to be closely related to the environment?
10. Why should we avoid eating processed foods?

Figure 4.7 Reading Comprehension Questions from Unit 3: Diet and Nutrition of the Grade XII English Coursebook

- C. Give a full-sentence answer to each question below.**
1. Write three colour-based English expressions mentioned in the passage.
 2. What colour is most commonly associated with sadness or loneliness?
 3. What type of person is commonly referred to as a greenhorn?
 4. What colour expression can you use to say "I'm in good health"?
 5. What does 'a red letter day' mean?
 6. Find two colour expressions in the passage that indicate a company's financial situations.
 7. What do the colours of a national flag represent?
 8. Why do advertisers choose bright and cheerful colours?
 9. Have you ever had a yellow mood? If yes, where and when?

Figure 4.8 Reading Comprehension Questions from Unit 5: Colors of the Grade XII English Coursebook

- D. Give a full-sentence answer to each question below.**
1. Why are we, human beings, thought to be the most intelligent?
 2. How is intelligence defined in the **passage**?
 3. What is AI?
 4. How many industrial revolutions have we had so far? What are they?
 5. How can text editor software help us with word processing?
 6. Why are self-driving cars becoming more popular?
 7. What do hospital robots do during the COVID-19 pandemic period?
 8. How are AI tools used in space exploration?
 9. What AI-powered machines and tools are mentioned in the **passage**?
 10. How are AI-powered robotic boats used in the conservation of the environment?
 11. What is one of the drawbacks of using AI-powered machines in mass production?
 12. What do you think the nature of employment in the future will be like?
 13. Would you like to have a more intelligent robot than you? Why or why not?
 14. If you were an AI scientist, what kind of AI machine would you like to invent?

Figure 4.9 Reading Comprehension Questions from Unit 6: Artificial Intelligence of the Grade XI English Coursebook

The frequencies of thinking skills in Grade XII range from 79 (62.69%) to 47 (37.31%). It was revealed that Q2 (remembering) is the most dominant skill, while Q10 (Summary & Conclusion), Q11 (question), and Q12 (creating) do not have any contribution in Grade XII. Grade XII coursebook focuses more on Q2 (remembering) than any other skills, resulting in the domination of lower-order thinking skills, as the following excerpts show:

(8) Coursebook : Grade XII, Unit- Unit 3, Topic – Diet and Nutrition (p. 21)

Reading Text : A non-literary text about the nature of Diet and Nutrition

Text : “a nutritious diet- a mixture of all the nutrients that our body needs to survive” (p. 22, 1st paragraph, lines 3 to 5)

Question : What is a nutritious diet? (p.25),

Type of Question : Q2 (remembering)

(9) Coursebook : Grade XII, Unit- Unit 5, Topic – Colours (p.46)

Reading Text : A non-literary text about the idiomatic use of colours in daily English expressions

Text : “A red-letter day is an important or special day...” (p. 47, 5th paragraph, lines 3 to 5)

Question : What does a red-letter day mean? (p.49)

Type of Question : Q2 (remembering)

(10) Coursebook : Grade XII, Unit- Unit 6, Topic – Artificial Intelligence (p.59)

Reading Text : A non-literary text about the history, pros, and cons of Artificial Intelligence

Text : “AI is a machine’s ability to perform cognitive functions such as perceiving, reasoning and solving problems as humans do” (p. 59)

Question : What is AI? (p.62),

Type of Question : Q2 (remembering)

(11) Coursebook : Grade XII, Unit- Unit 6, Topic – Artificial Intelligence (p.59)

Reading Text : A non-literary text about the history, pros, and cons of Artificial Intelligence

Text : “AI is a machine’s ability to perform cognitive functions such as perceiving, reasoning and solving problems as humans do” (p. 59)

Question : What is AI? (p.62),

Type of Question : Q2 (remembering)

(12) Coursebook : Grade XII, Unit- Unit 6, Topic – Artificial Intelligence (p.59)

Reading Text : A non-literary text about the history, pros, and cons of Artificial Intelligence

Text : “AI is a machine’s ability to perform cognitive functions such as perceiving, reasoning and solving problems as humans do” (p. 59)

Question : What is AI? (p.62),

Type of Question : Q2 (remembering)

As shown in the excerpts, the data reported that the most demanded thinking skills in the Grade XII coursebook were the lower-order thinking skills, and the least demanded skills were higher-order thinking skills, distributing 62.69% and 37.31%, respectively. On the other hand, compared to the thinking skills in the Grade X and the Grade XI coursebook, the Grade XII coursebook can be considered to provide fewer opportunities for higher-order thinking skills than the rest. The investigation also revealed that lower-order thinking skills covered 63.38% of all reading comprehension questions, while higher-order thinking skills were assessed through only 36.60% of the questions across the selected coursebooks, as shown in Table 4.2.

Table 4.2 Frequency and Percentage of Lower Order of Thinking Skills and Higher Order of Thinking Skills Found in the Reading Materials of Upper Secondary English Coursebooks in Myanmar

Books	Lower-Order Thinking		Higher-Order Thinking		Total
	Skills-Based Questions		Skills-Based Questions		
	Frequency	Percentage	Frequency	Percentage	
Grade X	89	69.53%	39	30.47%	128
Grade XI	71	57.72%	52	42.28	123
Grade XII	79	62.69%	47	37.30%	126
	239	63.39%	138	36.60%	377

4.3 Findings of the Research Question 2: Collaborative Development of the Reading Materials

The second research objective is to investigate the components of English reading materials to enhance the critical thinking skills of EFL upper secondary students in Myanmar. To address research question 2, Participatory Action Research (PAR) was employed, involving five in-service practitioners as co-researchers. Through three collaborative workshops, data were collected and analyzed using six stages of thematic analysis (Braun & Clarke, 2006). Phase 2's findings show that five interrelated components were included in reading materials: conceptual, pedagogical, material, task-related, contextual, and practical components. Those five components were collaboratively identified and embedded into the revised reading materials through reflection, negotiation, and validation among the co-researchers. This section presents the components of the reading materials, the description of the collaborative process, and examples of the developed materials.

4.3.1 Demographic Information of the Co-Researchers or Participants

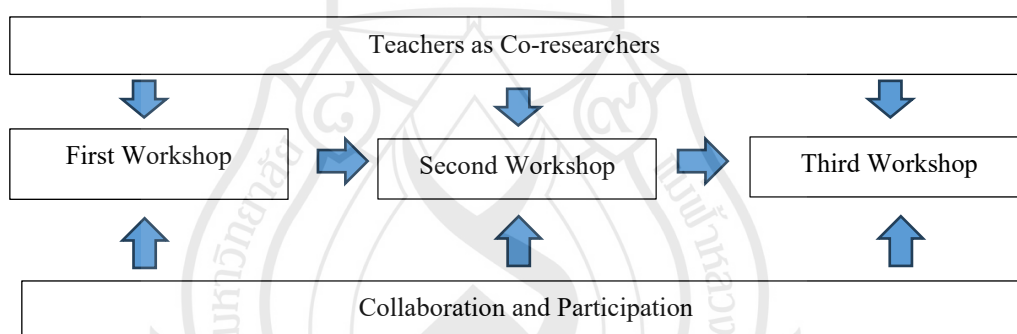
Five in-service EFL teachers joined the PAR as co-researchers in developing the reading materials for critical thinking development. Their teaching experiences ranged from five to sixteen years, and they were all currently teaching English at upper secondary schools in Myanmar. The team consisted of three female and two male teachers who taught English to students in Grades X, XI, and XII. Their diverse teaching experiences and different levels of grade allowed the developed materials to be informed by their broad perspective and to be feasible within the Myanmar EFL context. The demographic information of the participants is mentioned in Table 4.3.

Table 4.3 The Demographic Information of the Participants

No.	Participants	Gender	Teaching Experiences	Subjects Currently Teaching	Grades Currently Teaching
1.	Teacher 1	F	16 years	English	G-12, G-11, and G-10
2.	Teacher 2	M	16 years	English	G-12, G-11, and G-10
3.	Teacher 3	F	6 years	English/ Myanmar	G-11, G-10
4.	Teacher 4	M	12 years	English/ Myanmar	G-12, and G-10,
5.	Teacher 5	F	5 years	English	G-12, and G-10

4.3.2 The Nature and the Process of Developing the Materials Through PAR

The process of developing the reading materials was composed of three workshops, as shown in Figure 4.1. The collaborative process served as a major finding and shed light on the collaboration between the researcher and practitioner in material development, ensuring the research informed by practice. The process was adapted from the framework of Widodo (2015). The first workshop was to decide the roles of co-researchers and to identify the components to be included in the materials. The second workshop was conducted to design and develop the reading materials collaboratively, seeking confirmation that the analyzed data after the first workshop were consistent with the insights of each co-researcher. And the third workshop was to review, revise, and validate the developed materials. These collaborative workshops served as a common ground in shaping the conceptual, pedagogical and practical dimensions of the materials.



Source Widodo (2015)

Figure 4.10 The Adapted Process of Developing the Materials Through PAR

4.3.3 First Workshop: Collaborative Decisions on Role Negotiation and Components for the Materials

The researcher first of all negotiated at the administrative level with the District Education Officer to seek permission. Then, since the participating teachers were not only the participants but also the co-researchers of this study, the decision was made to meet at a convenient school, mutually agreed on before the negotiating processes or the workshops. During the first workshop, the researcher encouraged the participants to share their perceptions, ideas, and suggestions towards this study and to collaboratively decide on the roles of each participant. The agreement was reached that the co-

researchers would together revise the reading texts and tasks in six units of the Grade X coursebook. The roles of the participants were also decided during the first workshop, as described in Table 4.4.

Table 4.4 Decided Roles and Responsibilities of the Researcher and Co-researcher

Participants	Roles and Responsibilities
The researcher	Facilitator, co-writer of the reading texts and reading tasks, and organizer of the workshops
Teachers/Participants	Co-researchers, co-writers of the reading texts and reading tasks

As shown in Table 4.4, the decision was made among the co-researchers that the researcher would serve as the facilitator of the workshops and the co-researchers would write and design the materials together with the researchers in the second workshop. As the facilitator, the teachers were asked questions. The questions covered five sections: background information, current practices, principles, content and sequencing, format and presentation. Teachers shared their views actively in the first workshop. Teachers provided valuable insights into the components of reading the materials. The acquired data were analyzed using thematic analysis by Bruan and Clarke (2006), and the themes were revealed as follows: ministerial limitation on the use of materials and pragmatic way of revising, pragmatic approach on grade level and revision scope, co-researchers' perception of critical thinking in reading instruction and their current practices, and co-researchers' preferences for skills and contents.

4.3.3.1 Ministerial Limitation on the Use of Materials and Pragmatic Way of Revising

During the interview session, an unexpected theme emerged among the co-researchers that teachers, who are government officials, are at risk of using newly developed materials, which have not been prescribed by the Ministry and Basic Education Department. In-service teachers at different schools are clearly instructed to use only materials that are developed, approved, and prescribed by the Basic Education Council, Ministry of Education. A co-researcher stated:

“I think we might not be allowed to use the materials that the Basic Education Council has not prescribed. If we use the unprescribed materials, it might be risky for us, the teachers.”

This statement reflected the theme of the institutional constraints on the use of materials and highlighted the significant role of the existing materials in both public and private schools. In the context of Myanmar, as discussed in the section on Education in Myanmar in Chapter 2, the top-down process has been flourishing, making final decisions by the Ministry regardless of the statements in the NESP (2016-2021) to include more voices of the in-service teachers in designing the curriculum and the materials. Additionally, the perception also revealed that teachers are limited in their use of prescribed texts. On the other hand, another significant theme was observed among the reflections of the co-researchers that the revision of texts can be a safe place for co-researchers and a pragmatic approach for the implementation of the materials. A co-researcher suggested:

“How about revising the existing textbooks? I have been having my students do supplementary questions in the class since last year. Like our colleagues mentioned, we are not allowed to use the unprescribed text. However, I think it might be legal for us to use supplementary texts.”

The pragmatic theme paved the safest way for the co-researchers in revising the materials, rather than risking themselves in a limited context and the possibility of unsuccessful implementation of the developed materials. Though all 5 co-researchers showed unwillingness to create and develop a new learning material, they shared their eagerness to revise the existing ones. According to PAR methods, the researcher served as a facilitator, and the final collaborative decision among the co-researchers was to revise the texts.

4.3.3.2 Pragmatic Approach on Grade Level and Revision Scope

Another theme that appeared during the first workshop was a practical tactic for scoping grade level. Since Upper Secondary Level is composed of three grades, there are three coursebooks for those different grades. However, these levels are diverse in their own nature. When the co-researchers were asked whether to revise all three or any particular grade they had in mind, a co-researcher mentioned:

“For me, personally, we should revise the Grade X coursebook. Grade XII is not a good time to revise because Grade XII students are preparing for the national-level exam. In their exam, they have to answer the questions written by University English Professors. If we revise Grade XII, students might feel that they are not learning what they are supposed to learn. For Grade XI, based on my experience, they do show no interest or enthusiasm in the learning process. So, I suggest we revise Grade X only.”

All participants suggested that only Grade X should be revised, leaving Grades XI and XII. Their rationale was that Grade XII is a preparatory stage for entering the tertiary stage, and students are unable to focus on extracurricular activities. At the same time, according to the accounts of the participating teachers, Grade XI students demonstrate limited interest in participating in extracurricular activities and supplementary texts outside of their prescribed texts. In Myanmar, Grade XII students are required to pass the national level exam, which is strongly based on the prescribed coursebooks by the Ministry. Also, in English, the exam focuses more on the contents of the coursebooks. This results in a lack of motivation among Grade XII students in using the supplementary texts, which are not appropriate for their exam preparations. In addition, it can lead to the unsuccessful implementation of the developed materials. On the other hand, the reports of co-researchers showed another important point that the exam system of Grade X students focuses more on recalling and memorization, and the lower-order thinking-based exam questions cannot encourage those students to actively participate in the activities for critical thinking development in the developed texts. Co-researchers’ actual observations on Grade X students and exam systems reflect the findings of empirical studies on the national-level exam in Myanmar. All in all, a common decision was made that only the Grade X coursebook would be subject to revision.

Another subsequent theme observed was the manageable scope of units. Reporting their busy and tight schedules, the co-researchers mentioned they were more inclined to revise the reading texts and questions in the first seven units of the texts rather than to revise all of the units, focusing on all four skills. Teachers in Myanmar are government-appointed officials, fulfilling not only their duties as educators but also their extra workloads as government officials. Therefore, a common agreement was

reached among the co-researchers that they would revise the reading comprehension questions based on the reading texts in the Grade X coursebook.

4.3.3.3 Co-Researchers' Perception of Critical Thinking in Reading Instruction and Their Current Practices

Following the first workshop, other themes were identified from the qualitative data results in terms of their perceptions of critical thinking in reading instructions and their practices. The first theme on the state of critical thinking in reading instruction was their lack of confidence in using extant materials to support the development of students' critical thinking skills. All of the participants reported that they did not have confidence in using the existing EFL coursebooks and that they could help improve the critical thinking skills of their students. One of the participants said:

“Compared to Grade 12 and Grade 11, I feel more confident in using Grade 10 textbooks. The rest books do not work well for the critical thinking skills. All in all, all of the questions are too straightforward for students to think critically. In other words, no chance for it.” (Teacher 1)

The theme was echoed by another participant:

“I am not quite sure since they were developed and already prescribed by the Ministry. Occasionally, I need to adapt or add new supplementary elements in the class for the critical thinking development of my students.” (Teacher 3)

Another co-researcher complained of the same theme of the extant material lacking critical thinking skills development, saying:

“All in all, all of the questions are too straightforward for students to think critically. In other words, no chance for it.” (Teacher 1)

The complaints of the co-researchers are consistent with the findings of Phase 1 of this study, revealing that the extant coursebooks for upper secondary students do not provide enough opportunities for critical thinking skills development.

As a result, teachers had to find optimal ways to improve their students' skills. The second theme was the provisions of supplementary materials for their students. Since all of the teachers felt that the existing materials could not provide satisfactory opportunities for the development of critical thinking skills of the students, they reported that they shared supplementary texts and handouts with their students. A co-researcher said:

“Yes, I normally share handouts with my students. I revised some reading comprehension questions.”

This statement overlaps with the reflection of another co-researcher:

“I revised some reading comprehension questions given in the texts.”

As a result of the partial alignment between the policy and practice in coursebooks, teachers were forced to introduce their own revised materials to their classrooms. The data revealed a common practice that all participants in this study revised the reading comprehension questions in the prescribed coursebooks as additional materials.

The third theme is related to the motivation of students towards their revised materials. Teachers reflected that they faced the same challenges that their students lack motivation in doing the assigned tasks, the focus on lower-order thinking skills in the assessment and the exam systems, limited engagement of students with the supplementary texts, and limited time allocations for using the materials.

One co-researcher said:

“Very few show their interest, but most don’t want to think beyond the information given in the text.”

A similar theme was found in the experience shared by another participant:

“They are not quite interested in the activities. They just want to get good points in the exam, which assesses how well they memorize.”

The evident lack of students’ motivation towards the practices of teachers is rooted in the longstanding exam-driven system and rote-learning domination in Myanmar education, which is shaped by the socio-political factors, as discussed in the education system in Myanmar in Chapter 2. Myanmar students at different education levels are assessed through summative assessments at the end of each academic year. However, the examination papers were reported to have an emphasis on lower-order thinking than higher-order thinking (Aung, 2013). Consequently, students are being prepared to get higher grades in the exam through memorization and recalling facts from the coursebooks. In addition, students have long been trained to be obedient, to show respect, and to be in uniformity since before the NESP (2016-2021) and the education policy changes after the democratic reforms in Myanmar. Students were not expected to ask questions and to show critical thinking performance not only in class

but also in exam papers. As a result, it is not a surprise that students are hesitant to show their critical thinking performance ever after the reform. Then again, after the political leadership change in 2021, the education system was shifted to the exam-oriented system despite the statements for reforms in the NESP (2016-2021) (Symaco & Hayden, 2024).

4.3.3.4 Co-Researchers' Preferences for Skills and Contents

In the first meeting, the co-researchers collaboratively decided their preferences for linguistic focus, preferences for text types, activity format, language level, design considerations, and pedagogical approach and materials design.

1. Linguistic Focus: During the collaborative process, the co-researchers shared their common concern related to the insufficiency of the existing materials in supporting the vocabulary of students. They reported that the existing materials lack sufficient activities and are deficient in spaces for the acquisition of vocabulary. They believed that such a deficiency in vocabulary exercises has adverse impacts on the engagement of students with the reading lessons and their motivation in reading classes. Consequently, students are struggling with the reading texts, and this challenge poses a hindrance to achieving critical thinking skills. Therefore, the co-researchers reached a consensus that the revised reading materials should include explicit vocabulary exercises to address the gap and to support the reading comprehension of the students.

On the other hand, when the co-researchers were asked about the inclusion of grammar, all co-researchers favored the inclusion of vocabulary over the linguistic feature. One of the co-researchers led the discussion.

“For critical thinking, I don’t think grammar is appropriate for our students to practice their critical thinking. As we are developing the reading texts, I think vocabulary contributes more to the reading comprehension of the texts than grammar.”

This assumption was prevalent among other co-researchers, providing their beliefs on the alignment between vocabulary acquisition and reading comprehension and critical thinking development.

2. Preferences for Text Types: Concerning the type of texts, the preferences were diverse and interesting. The three co-researchers advocated the inclusion of non-literary texts like informative texts and science articles. In contrast,

the other two co-researchers stated their inclination towards literary texts like short stories, expressing their rationale that literary texts have more potential to make students engage in critical thinking-based reading comprehension questions than non-literary texts. Surprisingly, the three co-researchers who favored non-literary texts over literary texts were females, while the two who insisted on the provision of literary texts were males. These slightly diverse preferences are possibly influenced by their different educational backgrounds and experiences. The perspectives on including more non-literary texts for critical thinking are in misalignment with the findings of the existing literature, which reported that reading comprehension questions that fall under the category of literary texts are based on higher-order thinking skills or critical thinking skills more than the questions under the non-literary texts. However, in this material, to have a consensus among the co-researchers, the researcher facilitated among them, and it was finally agreed to include both non-literary texts and a literary text. A co-researcher expressed his assumption that if only non-literary texts were included, this would be consistent with the structure of the existing texts and there would be no difference. In addition, the same researcher raised his concern that the ministry would complain if the text were totally changed. As a result, the developed texts would not be able to come to the application stage. Therefore, to avert the complaints of the ministry and to reduce the risks of inapplicability of the materials, it was collaboratively decided that the first six reading texts in the existing coursebooks would remain unchanged, revising reading comprehension questions and inserting a literary text at the end of the revised reading materials to reflect the preferences of all co-researchers. In deciding genres of literature, the workshop discussions revealed the inclusion of an English classic short story. There were many proposals by the co-researchers. Therefore, a set of criteria was agreed upon among the co-researchers. The criteria go as follows: it shall be a classic of literature, it shall be a short story in English, it shall reflect either American or British literature, its language shall be suitable for B1 level students, its themes shall be appropriate for Upper Secondary Students, and it shall be consistent with the literary texts prescribed for Grade XI and Grade XII. Based on the established compromise, a story titled “The Happy Prince” by Oscar Wilde was selected, rejecting O. Henry’s, Edgar Allan Poe’s, and Nathaniel Hawthorne’s. The rationale for rejecting those proposed literary texts was that the Grade XII coursebook prescribed a story

named “A Day’s Wait” by Hemingway, and the Grade XI coursebook prescribed a story named “The Last Leaf” by O. Henry. In addition, both are a reflection of American Literature, and no British literature has been mentioned in any kind of coursebooks for Upper Secondary students.

3. Activity Format: When asked whether individual, paired, or group activities would be included in the materials to foster critical thinking, all co-researchers came to a general agreement that individual activities would be adopted.

4. Language Level: For the language level, as mentioned in the NESP (2016-2021), the framework would be adapted, and the B1 level would be adopted to meet the language level of the students and not to make the language a barrier for the improvement of students’ critical thinking skills.

5. Design Considerations and Pedagogical Approach: The co-researchers also agreed to construct the questions from easier to more difficult, following Bloom’s taxonomy hierarchical style. The co-researchers’ suggestions overlap with the theoretical statements that good learning materials should begin with easier tasks followed by more complex ones to make sure the scaffolding method is effectively embedded (Hutchinson & Waters, 1987; Nunan, 1988). In addition, scaffolding students and helping students learn from easier to difficult ones, or making students learn the lower-order thinking skills first are similar to the hierarchical structure and they can help improve their higher-order thinking skills (Anderson & Krathwohl, 2001) When discussing the practicality of the materials, all of the co-researchers came to the general agreement that the revised reading materials should be concise and easy to handle to overcome the time constraints in the class. For visual features, the co-researchers emphasized that the inclusion of colorful illustrations and images related to the topic should be increased in the revised texts. However, there is no literature to support the relationship between the visuals and critical thinking development.

6. Materials Design: When the co-researchers were asked to achieve a balanced inclusion of the activities, they agreed that following the backbone of the existing texts would be more applicable for both teachers and students, thereby maintaining the familiarity and legitimacy of the materials in the class. Table 4.5.

summarizes co-researchers' preferences in designing and developing the reading materials.

Table 4.5 Co-researchers' Preferences in Designing and Developing the Reading Materials

Domain of Preferences	Co-Researchers' Agreement	Rationale
Linguistic Focus	More focus on vocabulary rather than grammar	All co-researchers believe that the existing materials are deficient in teaching vocabulary, which is crucial in reading comprehension.
Text Type	Inclusion of both non-literary (e.g., informative texts and literary (classic literature)	To reflect the diverse perceptions of the co-researchers and to be consistent with the existing materials' structures
Activity Format	Individual Activity	To fit the class time
Language Level	B1 (CEFR)	To help students overcome the language barrier
Question Design	Hierarchical, based on Bloom's Revised Taxonomy	To scaffold students' development of critical thinking skills
Materials Design	Consistent with the existing materials, visually enhanced	To keep the familiarity between the existing text and students, and to make students engage with the text

The themes emerged from the first workshop: institutional limitations on the use of materials, pragmatic way of revising, pragmatic approach on grade level and scope, co-researchers' perception of critical thinking in reading instruction, and researchers' current pedagogical practices, and co-researchers' preferences for skills and contents laid the foundation for identifying the major components of the materials, which are described in the following section.

4.3.4 Emergent Components of the Reading Materials for the Critical Thinking Development

The findings that were synthesized from the first workshop are described in this section, presenting the components of reading materials for the critical thinking development through the collaboration between the researcher and the practitioners. These components were identified collaboratively among the co-researchers. To directly address the research question 2, the themes in sections from 4.3.3.1 to 4.3.3.4 are consolidated in this section. The data from the first workshop highlighted that the development process was not limited only to the development of reading comprehension questions but expanded to components influenced by ministerial limitations, the realities in the classroom, the perceptions of practitioners on critical thinking skills, and pedagogical approaches. Five major components are (1) contextual, (2) conceptual, (3) material, (4) pedagogical, and (5) task-related ones, which collectively informed the design and revision of the materials.

4.3.4.1 Contextual component

The contextual component is the first component of the reading materials dictated by the findings of the first workshop, which showed that the use and implementation of instructional and learning materials in public schools in Myanmar requires close monitoring and permission from the Ministry of Education. Regarding the institutional constraints and raising concerns over the possible risks of implementing the unprescribed materials, which do not have the official permission of the ministry, the co-researchers collaboratively decided that the developed materials should be within the existing ministerial regulations rather than undergoing a radical transformation. The contextual component ensured that the reading materials would follow the structure of the extant prescribed coursebooks, rather than developing totally new material. Moreover, selecting the grade level and deciding the scope of materials

fell under this component, as mentioned in section 4.3.3.2. The collaborative decision to focus only on Grade X also reflects the institutional awareness of the national-level exam system, the duty loadings of teachers, and the feasibility of implementation. Therefore, the contextual component ensures that the collaboratively developed reading materials will remain legitimate, feasible, and implementable in real classrooms across Myanmar.

4.3.4.2 Conceptual Component

The conceptual component is the second component of reading materials. It relates to how co-researchers perceive the concept of critical thinking skills and how they implement critical thinking in reading materials. Teachers in Myanmar contend that the opportunities for critical thinking in the extant EFL coursebooks are unsatisfactory, and they also reported that students should go beyond surface-level understanding. The co-researchers also reflected that interpretation, reasoning, and justifying are skills involved in critical thinking. Their common reflections molded the conceptual component of the materials. Consequently, critical thinking in this investigation was approached as a text-based cognitive development, embedded through questioning and interpretation, rather than as a standalone ability. The conceptual component also provided a common ground for developing materials, indicating the alignment between students' cognitive processes and teachers' classroom contexts.

4.3.4.3 Material Component

The material component of the reading material is related to the nature and selection of reading texts. The workshop discussions agreed to prioritize students' familiarity with the reading texts and the legitimacy of the materials, enhancing students' engagement with the texts. Consequently, the co-researchers came to a common agreement that the developed materials should retain the backbone of the existing coursebooks while revising the reading comprehension questions. Types of reading texts, vocabulary teaching, and visual aids were included in deciding the material component. The inclusion of both literary and non-literary texts aligns with the perceptions of co-researchers' preferences and expectations of the institution. In addition, providing explicit teaching of vocabulary was agreed upon to reduce language barriers and to improve students' engagement with the texts. Moreover, the workshop

discussions also agreed to design the materials with visual support to keep students engaged with the texts and motivated, despite visual support not being a direct mechanism for critical thinking development.

4.3.4.4 Pedagogical component

The fourth component of the material is the pedagogical component, which emerged from the common beliefs of the co-researchers about classroom practice and students' engagement. As presented in section 4.3.3.4, the co-researchers highlighted the practicality of the materials, time efficiency, and clarity in reading materials. As a consequence, a pedagogical component that emphasizes the scaffolding, progression, and manageability was developed. The workshop discussions agreed upon designing the materials, moving from simpler comprehension to more cognitively challenging questions, and following the hierarchical nature of Bloom's Revised Taxonomy. The agreement was based on the co-researchers' perception of the confidence of students that it should be built through lower-order thinking skills-based tasks to higher-order thinking skills tasks. Moreover, the co-researchers showed their preference that individual task formats would be selected based on time constraints and classroom situations, reflecting the pragmatic implementation of the materials in the classroom.

4.3.4.5 Task-related component

The task-related component is the final component of the reading materials, focusing on the design of reading comprehension questions. As presented above, this component emerged from the agreement of the co-researchers on task sequencing, critical thinking demands, and alignment with the assessment system in Myanmar. Instead of designing unfamiliar activities, tasks were designed to follow the existing structure of the coursebooks. This component is crucial in ensuring that critical thinking skills can be embedded into familiar tasks without causing students' resistance to the material. Revising the tasks rather than designing entirely new ones ensures the feasibility of the implementation of the collaboratively developed materials in the real classrooms, without a radical transformation.

4.3.5 Second Workshop: Collaborative Drafting

The second workshop was conducted to design and develop the reading materials, seeking confirmation that the analyzed data from the first workshop were consistent with the insights of each co-researcher. After analyzing the data collected

from the interview session of the first workshop, the researcher shared the results with all the participants in the second workshop. The sharing of the data was essential to make sure that the analyzed data were consistent with the contributions of the co-researchers to the developed materials in the previous workshop. During the second workshop, all co-researchers collaboratively developed the materials, revising the existing reading tasks and writing new reading comprehension questions. Then, the researcher took the responsibility of compiling all of the designed materials to get the first draft of the materials.

4.3.4.1 The Collaboratively Developed Reading Materials

The full set of collaboratively developed reading materials is provided in the Appendix E. Only a sample unit of the full set is described here to present the revised version of the materials.

The revised reading material consists of seven units: six units of non-literary texts and one unit of literary texts. Based on the results of the three workshops, the co-researchers came to an agreement that the revised material should follow the backbone of the existing materials. The excerpt is mentioned in Figure 4.11. The title of the unit is ‘The Happy Prince’ by Oscar Wilde. To meet the language level of the students, the language of the story was adapted to the B1 level. Similar to the previous units, this unit has a pre-reading section followed by the reading text, pre-teaching vocabulary, and critical thinking-based reading comprehension questions.



Figure 4.11 Sample of a Pre-reading Activity

Then, the reading text is provided for the students. As shown in Figures 4.12 and 4.13, appropriate illustrations are inserted based on the agreement among the co-researchers. Despite having no literature supporting that the illustrations can enhance critical thinking skills, the co-researchers agreed to provide the pictures to keep the motivation of the students.

The Happy Prince

Once upon a time, a beautiful statue stood in the middle of a town square. It was the statue of a prince. His body was covered in shiny gold leaf, and his eyes and the sword on his belt were ornamented with precious gemstones. From his place on the square, he could see everything going on around him. People called him the Happy Prince.

One cold and windy night, a swallow wandered into the square. The other swallows had all gone south for the winter, but this one had gotten lost and was left behind. Circling the square, the swallow saw the statue of the Happy Prince.

"It's too cold to fly tonight. I will stay here for the night. It's so cold."

As the swallow settled down, a drop of water fell on his head.

"Do, that's cold! Can it be raining?"

The swallow glanced up, and saw that the sky was clear. It wasn't raining at all.

"How odd. Where did that drop of water come from, then?"

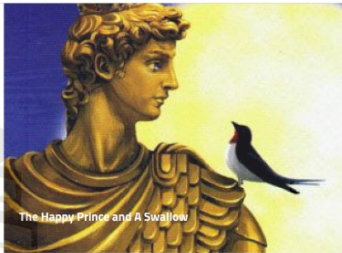
Curious, the swallow flew to the top of the statue. When he reached the top, he saw that the Prince's eyes were filled with tears.

"Why are you crying, Prince?"

"I am crying because I am sad."

"Why? How could you be sad?"

"I was once a happy Prince, and all my days were filled with joy. Now, when I am a statue, I can look over the whole town. I see so much misery and poverty."



The Happy Prince and A Swallow

Swallow, just take a look at that little house there."

"Where?"

The swallow looked at where the prince pointed. He saw an old, run-down house. A sick child lay on the bed inside.

"That child is very ill, but the family is too poor to buy the medicine she needs."

"Oh, how sad!"

"Swallow, would you do something for me? Pluck out the ruby from my sword and bring it to that house. If they sell it, they will have enough money to buy the medicine."

"Of course, I will do as you ask."

Figure 4.12 Sample of the Reading Text with an Illustration

The swallow plucked out the ruby and carried it to the child's house. The following day, the Swallow stayed in the square. He wanted to stay with the prince a little longer. In the afternoon, he flew up to the prince's shoulder to say farewell.

"Good-bye, Prince. I must fly south now."

"Swallow, can I ask for one final favour before you go? There is a young man living in an attic on that side of the village. He is writing a novel, but he is so poor that he hasn't eaten anything in days. Can you please take one of my sapphire eyes and bring it to him?"

"Your eye?...Very well, Prince."

Now that the prince had given away both of his eyes, he couldn't see anymore.

The Swallow took one of the prince's eyes and flew to the writer in the attic. When he discovered the sapphire, the poor writer shed tears of joy, because he knew he wouldn't starve.

The swallow didn't go south that day, but he was very happy. The next day, the swallow tried to say goodbye to the prince once more.

"Prince..."

"I am so sorry, Swallow, but I have one last favour to ask of you."

"Do you see that girl selling matches in the street? Give her my other eye."

"I can't do that. You would be blind then, Prince!"

"It doesn't matter. Please give my eye to that poor girl."

The swallow took out the prince's last remaining eye and dropped it into the match girl's basket.

"Where did this come from? Oh, Swallow, thank you so much! With this sapphire, I can stay warm this winter. Thank you so much."

Now that the prince had given away both of his eyes, he couldn't see anymore. Thank you, Swallow. You have helped me very much. I know I have kept you back too long. Please fly south now.

"No, my prince. I cannot leave you alone now. I will be your eyes."

The swallow had grown to love the prince for his generous heart and wanted to stay with him. From that day on, the swallow stayed by the prince and flew around the town, telling the prince about everything it saw.

"Prince, I saw some homeless children living under a bridge. They will soon starve or freeze to death."

"Please strip some gold leaf from my body and bring it to those children."

Yes, Prince.

Every day, the swallow would strip bits of gold from the prince's body and bring them to those who were ill or in need. As more and more people became happy, the prince's body grew more and more ugly. Winter came, and the swallow could feel its body freezing. One snowy day, it flew up to the prince's face and kissed him.

"Thank you, my prince. You have taught me the true meaning of happiness. Thank you..."

Figure 4.13 Sample of the Reading Text

After the reading text, a pre-teaching vocabulary section is provided. Although this section should have come first, the co-researchers agreed to follow the format of the existing textbook, in which the pre-teaching vocabulary section comes after the reading text. Consequently, as shown in Figure 4.14, a pre-teaching vocabulary section is inserted in the revised material to help students overcome the language barrier in the comprehension of the reading text.

As it said those words, the swallow fell to the ground and died.

"My poor, faithful Swallow! You didn't fly south, and you died because of me. Even my gold cannot save you. My poor, little swallow..."

Tears flowed from the prince's empty eyes and a cracking sound came from deep within his body.

The cold winter winds passed, and the warm sunshine of spring filled the air. The villagers emerged into the square to drink in the sunlight and saw what had become of the prince's state. They pointed their fingers at him, saying "Look at that! What has happened to the statue? It looks dreadful, more like a homeless prince, not a happy one. This statue is making the whole square look grubby. We've got to tear it down right away!"

The villagers tore down the statue and cast it into the fire to melt it down. Oddly, as the statue melted away in the heat, the prince's lead heart remained.

Looking down over the earth, God turned to one of his angels and said:

"Bring me the two most beautiful things in the world."

Yes, Lord.

The angel floated down to earth and brought back the frozen body of the swallow and the prince's lead heart.

"You have rightly chosen". God was very pleased.

The people do not understand what true happiness really is. The swallow and the prince will live eternally in Heaven. The Prince and the Swallow lived happily ever after in Heaven. But sometimes, they would look down upon the world and shed tears for the people below.

A. Match the words in column A to their appropriate meaning in column B.

Column A Words	Column B Meaning
1. Statue	a. the space or room at the top of a building, under the roof
2. Square	b. are in very bad condition
3. ornamented	c. a small bird with pointed wings and a tail with two points
4. strip	d. dirty
5. grubby	e. causing fear, shock, or suffering
6. eternally	f. to remove, pull, or tear the covering or outer layer from something
7. Swallow	g. forever
8. dreadful	h. to add decoration to something
9. run-down	i. an area of approximately square-shaped land in a city or a town, often including the buildings that surround it
10. attic	j. an object made from a hard material, especially stone or metal, to look like a person or animal

B. Read the story written above and write True or False to the following.

- Once upon a time, a beautiful Prince statue stood in the middle of a town square.
- The body of the prince was covered with silver.
- The statue was known as a sad prince.
- The little swallow got lost and was left behind.
- The little swallow cried because he saw a sick child lying on the bed inside.
- The little prince asked the swallow to give bits of gold on his body to some homeless children living under a bridge.
- The Swallow cracked when it saw the death of the Happy Prince.

Figure 4.14 Sample of Post-reading Activity and Pre-teaching Vocabulary

As described in Figure 4.14, a true/false exercise is provided to scaffold the students' comprehension of the text. Then, reading comprehension questions follow as shown in Figure 4.15.

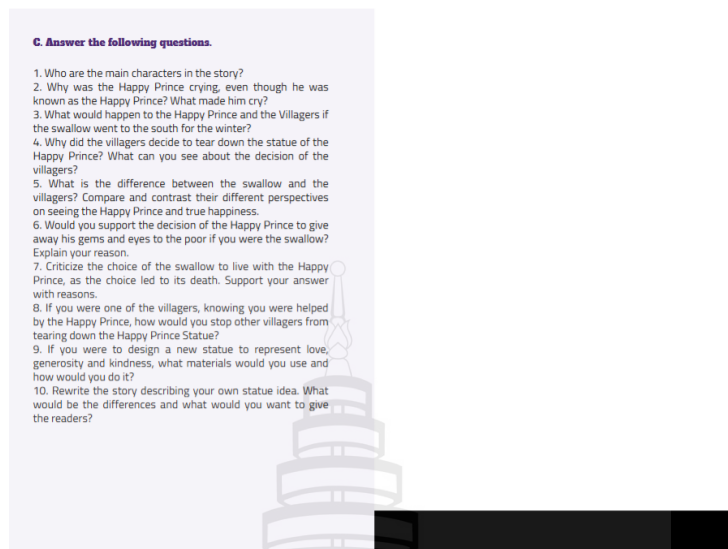


Figure 4.15 Sample of a Post-reading Critical Thinking-Based Reading Comprehension Questions

4.3.6 Third Workshop: Review, Revision, and Validation

The third workshop aimed to review, revise, and validate the developed materials. After writing the first draft of the reading materials, all co-researchers collaboratively conducted the third workshop. It was aimed to review the first draft of the materials and revise them if necessary. However, the third workshop served as a validation stage. During the third workshop, all co-researchers reviewed each unit in the first draft, revisited the data from the first workshop, and checked that they were well reflected in the first draft. The co-researchers reported that they reported the absence of feedback on the materials' content, pedagogical approaches, and tasks during the third workshop. One of the co-researchers said:

“For me, I do not have any feedback on it. I think that the materials can be used in the class” (Teacher 5)

Another co-researcher mentioned:

“I am satisfied with the structure of the materials. I hope we can use this one in our class soon.” (Teacher 1)

Other co-researchers reported the same, saying the developed materials could be conducted in the classroom with no revision. Consequently, the third workshop

confirmed three important points: first, the co-researchers acknowledged that the first draft of the collaboratively reading materials was the final product of the PAR process; second, they approved that the third workshop was the completion of the developing materials process; third, they validated that the first draft of the collaboratively reading materials could be successfully implemented in the classroom.

To conclude, based on the results of the three workshops, the findings of Phase 2 produced a collaboratively developed and teacher-approved critical thinking-based reading material composed of seven units. The components of the reading materials were conceptual, pedagogical, and practical. The units were composed of six non-literary texts and one literary text to ensure the reflection of the diverse perceptions of the co-researchers and to be consistent with the existing literature supporting the use of literary texts in promoting critical thinking skills (Khatib & Alizadeh, 2012; Tabačková, 2015; Shukri & Mukundan, 2015; Ilyas, 2015; Venugopalan, 2019). The reading texts were followed by critical thinking-based reading comprehension questions. Based on the hierarchical structure of Bloom's taxonomy, the complex questions came after simple questions to ensure scaffolding of the students (Anderson & Krathwohl, 2001). The language level in the developed materials was the CEFR B1 level to meet the language proficiency of Grade X students in Myanmar. Vocabulary pre-teaching sections and scaffolded questions were included as the pedagogical component of the materials. Following the backbone of the extent materials in the constricted institutional context, the material was collaboratively designed with illustrations to maintain the motivation of learners in the exam-driven context, and the contents were chosen to be contextually practical in the time-constrained real EFL class. The inclusion of these conceptual, pedagogical, and practical components into the reading materials contributes to the enhancement of critical thinking skills of EFL upper secondary students in Myanmar.

4.4 Findings of the Research Question 3: Affordances and Challenges of Implementing the Critical Thinking Program

Phase 3 is conducted to answer Research Question 3: what the affordances and challenges of implementing the critical thinking program reported by focal teachers are. The data for this phase were triangulated through classroom observation and semi-structured interviews. The elements in classroom observation forms include the teacher's use of materials, the students' engagement, and the overall effectiveness. The interview questions cover teachers' perceptions of the efficiency and deficiencies of collaboratively developed reading materials.

4.4.1 Affordances of Implementation of the Critical Thinking Program in the Classroom

Classroom observation data and interview data revealed the affordances that supported the implementation of the critical thinking program.

4.4.1.1 Usability of the Developed Materials and Teacher Acceptance

The first affordance of the developed materials is high usability and clarity. The data from both classroom observation and interview results revealed the predominant theme of high reliability and usability of the developed materials, which enabled teachers to implement the program as planned. Data from classroom observations showed that both focal teachers followed the structure and sequence of the developed material in a consistent way, starting their lessons with a lead-in section, followed by other sections as prescribed in the developed reading materials. Both teachers did the pre-teaching vocabulary to help their students overcome the language barrier in developing reading and critical thinking skills. Then, it was observed that both teachers followed the while-reading activities closely stated in the materials. Both teachers proceeded with their reading lessons, encouraging students to read the text first. This coherent pattern suggests that the developed materials were user-friendly and effective in pedagogical implications.

The data from the interview questions supported the theme of high usability. One focal teacher stated:

“I followed every part of the materials.” (Teacher 1)

The statement was in common with the report of another focal teacher, who said:

“I followed every single step provided in the material. I started with lead-in and prereading activities. Then, we read the passage together.” (Teacher 2)

These statements, along with the classroom observation data, confirmed that the sequence of tasks in developed materials is logical and applicable in language classrooms. Tomlinson stated that teachers are one of the best judges in evaluating the effectiveness of developed materials (Tomlinson, 2011; Tomlinson, 2013). The focal teachers’ judgments and perceptions of the developed materials are useful as they use the developed materials in the classrooms. Positive perception and acceptance of the materials by teachers is another significant advantage. Both focal teachers reported their satisfaction with the developed materials. When the teachers were asked what elements of the reading materials did not work for them, the teachers responded:

“No, for me, everything is fine, and also for my students.” (Teacher 1)

“No, everything is fine with me. A bit challenging, but it works well for me.” (Teacher 2)

According to the experiences of the focal teachers, the developed materials align with the criteria of effective materials, which is that a particular material is effective and high in usability if teachers find it applicable and usable in their classrooms (McGrath, 2002). The positive reflections of teachers in the interview questions confirmed the high applicability of the materials, acknowledging relevance and practicality (Richards, 2001). In addition, the statements of teachers showed that the developed materials were teacher-friendly, logically sequenced, easy to follow, providing feasibility of implementation in the class without directly challenging the institutional constraints and without the need for modification. Besides, the classroom observation data indicated that all of the tasks could be completed within the allotted time, and the data overwhelmed the possible bias, indicating that students could follow the instructions in the materials well and showed enthusiasm for using the developed materials. Therefore, it can be concluded that the triangulated data revealed that the materials could successfully be implemented in the classroom, indicating high usability, clarity, and acceptance by teachers.

4.4.1.2 Students' Engagement and Motivation

The data of the classroom observations and the interview questions also revealed that the developed materials afforded high levels of students' engagement, motivation, and attention. The motivation and engagement of students also play an important role in validating the effectiveness of a developed material. The materials that failed to motivate students and improve their engagement are ineffective (Nunan, 2004). On the other hand, a material that can maintain students' engagement, motivation, and attention is an effective one (Harmer, 2007; Tomlinson, 2011). The observation data revealed that students in both classes followed their teachers' instructions, completed over 90% of the critical thinking-based tasks, and participated in every activity outlined in the materials. It was found that students participated enthusiastically since the lead-in section, which was to stimulate their existing knowledge about the text. The enthusiasm showed that the developed reading materials were efficient in keeping students' engagement. Additionally, students were found to actively engage in the critical thinking skills-based activities as guided by the materials. A major activity in the materials reinforcing the theme of motivation is the pre-teaching vocabulary section before reading. When they were doing that pre-teaching vocabulary in Unit 2: Literature, the activeness, excitement, and enthusiasm were evident during the activity shown in Figure 4.16. It was also found that pre-teaching vocabulary activities served as a scaffolded way to encourage students' motivation and help them comprehend the texts, and also improve their critical thinking skills when they were doing the comprehension questions. Students might show motivation as they were using a new learning material, or it may be that the extant coursebooks do not provide a similar task as in the developed materials. In the extant coursebook, students are asked to complete the gap-fill exercise without teaching the vocabulary first, as shown in Figure 4.17.

A. Pre-teaching Vocabulary

I. Read the text and match the words in column A to their appropriate meaning in column B.

Types of Literature	The meaning
1. Prose	a. a play that has a very sad ending
2. Poetry	b. a type of play that is both sad and amusing
3. Drama	c. a poem having fourteen lines and a particular pattern of rhyme
4. Sonnet	d. a kind of free, straightforward writing
5. Limerick	e. literature in verse
6. Comedy	f. stories in the form of a play which is to be performed on a stage of a theatre, or presented as a radio or television programme
7. Tragedy	g. a humorous poem with five lines and its rhyming scheme
8. Tragicomedy	h. a play that is amusing

Figure 4.16 Pre-teaching Vocabulary Task in the Developed Reading Materials

A. Complete each sentence below with a word or phrase from the reading passage.

1. A painter uses colours. A writer uses _____.
2. The three subjects under literature are: _____.
3. The author or writer of *Pride and Prejudice* was _____.
4. *For Whom the Bell Tolls* was written by _____.
5. There are _____ lines in a sonnet.
6. There are _____ lines in a limerick.
7. The three kinds of drama are: _____.
8. A play that has a sad ending is a _____.
9. *Yatu.*, *yagan*, *aye-gyin.*, and *baw-lai* are different kinds of Myanmar _____.

Figure 4.17 Vocabulary Task in the Extant English Coursebook for Grade X (p 10)

The results of the interview data supported a similar theme of contextual relevance and the motivated function of the activity. One of the focal teachers answered the question on the motivation of students to use the materials. It was reported:

“Vocabulary exercises and comprehension questions... They show enthusiasm to study.” (Teacher 1)

“Although they find it challenging, I can see that they enjoy it a lot. They can discuss and share different answers to the higher-order thinking-based questions.” (Teacher 2)

The findings of the interview questions indicated that the developed materials are effective in promoting the engagement and motivation of the students, and

provided opportunities for active engagement of students and an interactive learning atmosphere, which are beneficial in developing critical thinking skills.

4.4.1.3 Promotion of Critical Thinking Behaviors

Another significant affordance reported by the data from the classroom observations and the interview questions is the cognitive development behaviors of students. The findings from classroom observation and interview questions reported the same finding that both teachers used open-ended questions to encourage students to think critically about the reading texts. The observations found that both teachers moved to the critical thinking-based revised questions after reading the texts, scaffolding their students. Despite the challenges posed by the questions, students could perform the tasks well with the support of their teachers. Both teachers also reported that the revised reading questions were effective in promoting the critical thinking skills of their students.

Teacher 1 noted:

“We can say the critical thinking skills of our students have developed after using this. I see they share their perspectives”. (Teacher 1)

“Of course, I can see they can think beyond the text.” (Teacher 1)

Teacher 2 echoed:

“They have improved a lot in thinking from different perspectives, and they can think beyond the text. They also come to realize there is no exact answer or wrong answer for the revised questions”. (Teacher 2)

Critical thinking skills or higher-order thinking skills can be developed through the use of questioning and tasks that trigger analysis, evaluation, and synthesis. (Ennis, 1993; Facione, 1990; Paul & Elder, 2006). In addition, Bloom (1956) and Anderson and Krathwohl (2001) also assert that questions that include keywords such as analyze, differentiate, evaluate, summarize, interpret, etc., scaffold students to move from lower-order thinking skills of factual recalling, literal understanding, memorization, and rote learning to higher-order thinking skills of analysis, evaluation, synthesis, and creation. Since the questions in the developed materials were collaboratively designed for enhancing those skills, teachers reflected that these developed materials are effective in developing the critical thinking skills of their students.

The data from classroom observations and interviews revealed that the collaboratively revised materials were effective in moving traditional classroom practices from text-bound, answer-focused tasks to analytical and evaluative practices, which are essential in promoting the critical thinking skills of the students.

4.4.2 Challenges of Implementation of the Critical Thinking Program in the Classroom

Despite the effectiveness of the program, the data also revealed the challenges that affected the implementation in the classroom.

4.4.2.1 Language Proficiency Limitations

One common challenge found in both observed classrooms was related to students' language proficiency, affecting their ability to engage with critical thinking-based questions. This led to the consequence that a few students were found to be less interested in reading comprehension questions, while most students engaged in almost every activity in the materials, struggling with the challenging questions.

Teacher 1 shared the experience in the classroom as follows:

“The questions are a little bit more challenging than the original questions.”
(Teacher 1)

Teacher 2 also echoed the same statement:

“Questions seem to be difficult for them, as the answer cannot be found in the text.” (Teacher 2).

Some questions in Unit 2: Literature of the developed materials were designed to encourage students' critical thinking skills, using keywords from the question words by Anderson and Krathwohl (2001) and Ilyas (2015), as shown as follows.

7. Do you agree with the statement, 'we have our prose and drama'? Why or why not?

8. Evaluate the similarities and differences between Myanmar Literature and English Literature.

9. Explain the meaning of literature in a simple word to someone who is not familiar with that word” (The Collaboratively Developed Materials, p.12).

Despite some challenges in answering those questions, it was found that teachers encouraged students to use their skills of analyzing, evaluating, and inferring

during their reading lesson. Besides, teachers switched the code of classroom language to the Burmese language. One of the focal teachers shared her coping mechanism, saying:

“If they don’t understand the questions very well, I need to translate the questions into Burmese. And I let my students answer in the Burmese language and rewrite the answer in English.” (Teacher 1)

Occasionally, a language barrier can be one of the challenges for developing critical thinking skills in the EFL classroom (Liang & Fung, 2020). Therefore, the solving strategy of Teacher 1 was in alignment with the theoretical statement. Code-switching helps students focus more on the meaning of the text and facilitates comprehension and promotes cognitive function-based tasks (Cook, 2001).

Teacher 2’s approach was different from Teacher 1’s strategy. Teacher 2 said:

“I provided some guidelines on how to find the answer, and how to think beyond the text, and how to use their background knowledge and link that knowledge.” (Teacher 2)

Teacher 2’s approach was similar to the scaffolded approach to overcome the challenges in the materials. Although the strategies were different, they were effective in helping students understand the texts and in keeping students’ motivation and engagement. To sum up, the themes: the effective contents for students’ motivation and attention, and the scaffolded pedagogical approach for sustainable engagement, are interconnected themes. These findings are in alignment with the theoretical support that well-designed, content-relevant, and scaffolded learning materials are effective for not only language acquisition and cognitive development (Harmer, 2007; Tomlinson, 2011).

4.4.2.2 Cognitive Demands and Students’ Resistance

The second challenge identified through the triangulated data is related to the cognitive demands of the questions. Although students were found to be enjoying the tasks, they were struggling with some critical thinking-based questions more demanding than those in the extant book.

One of the focal teachers said:

“They said the questions are a little bit more challenging than the original questions” (Teacher 1)

Another teacher also added:

“Questions 7, 8, and 9 seem to be difficult for them, as the answer cannot be found in the text.” (Teacher 2)

The reflections of the teachers revealed that there was a tension between the students’ background learning experiences and the cognitive demands of the question.

While most students were found to follow the sequence of the developed materials positively, a few students were also found to show resistance to using them.

One of the focal teachers said:

“A few students don’t want to follow the materials.” (Teacher 1)

This resistance may come from two causes: unfamiliarity of students with tasks demanding cognitive skills and discomfort with open-ended questions. Nevertheless, the data from the classroom observation showed that no hindrance or disruption was found in the flow of the lesson.

4.4.3 Summary of Affordances and Challenges of Implementation of the Critical Thinking Program in the Classroom

The triangulated data revealed the affordances and challenges of implementing the program in the classroom. The affordances are high usability and practicality of the developed materials, the enhancement of students’ engagement and motivation, and the promotion of critical thinking skills of students. Despite the affordances, there are challenges such as the language barrier and minor students’ initial resistance to the critical thinking-based tasks.

The first affordance identified through the data was that the developed materials were high in usability and practicality. Both focal teachers reported that they followed all sections of the collaboratively developed materials without skipping or omissions. The data acquired through the classroom observations revealed that the materials were implemented as intended. The flow of the activities, starting from the lead-in section, pre-reading vocabulary tasks, to while-reading and critical thinking-based questions, helped the teachers to implement the materials successfully in their classrooms.

Secondly, it was found that the materials were effective in developing the motivation and interest of students. The two focal teachers consistently reported that

their students enjoyed the revised questions and showed enthusiasm to share their ideas and discuss from different perspectives. Meanwhile, the classroom observations reported the same finding that students actively participated in every task and showed interest since the lead-in stage.

Moreover, the promotion of critical thinking skills was revealed through the triangulated data. The focal teachers reported that students' changes in thinking, considering different perspectives, were noticed. The scaffolded structure of the questions from the lower-order thinking skills to the higher-order thinking skills enabled the students to enjoy more opportunities to practice the higher-order thinking skills in a supportive learning context. Despite the short period of time for the implementation, the two focal teachers reported that the revised materials created more opportunities for developing the critical thinking skills of the students than the existing ones.

Despite the affordances, the language barrier emerged as one of the recurring challenges of the materials. Students were found to be struggling with the questions when they could not easily locate the answers in the provided texts, although the materials were designed at the CEFR B1 level. Consequently, teachers were forced to use code-switching and translate the questions into L1. Though those coping mechanism were seemed to be effective, the language barrier remains a limitation for students to show their critical thinking skills in the EFL context.

The second challenge concerns the initial resistance of some students to critical thinking-based questions. Classroom observation data demonstrated that a few students showed hesitation in engagement with critical thinking skills-based questions, demanding higher cognitive abilities. While most students were found to be engaging with the task, this reluctance of those few students reflects the existing tension between the innovative teaching approaches and deep-rooted recall-based assessment practices in Myanmar.

In short, it was found that the developed materials were high in usability, clear in instruction, and affordable in increasing students' engagement, motivation, and providing more opportunities for the development of higher-order thinking skills of students. Meanwhile, challenges such as a language barrier and the initial resistance of minor students were identified. These affordances and challenges collectively reflect

the realities of implementing a critical thinking-oriented program within an exam-oriented EFL context like Myanmar and emphasize both the potential and the constraints of pedagogical innovation in Myanmar secondary schools.

4.5 Summary of Findings of the Three Phases

This Research and Development (R&D) study was guided by Borg and Gall (1983) and the language curriculum design framework by Macalister & Nation (2020). This study was conducted in three phases to address the four research objectives. The findings of the study address the three research objectives as follows.

Research Objective 1: To investigate the current state of critical thinking skills manifested in extant English coursebooks in Myanmar.

The findings of Phase 1 demonstrated that the reading materials of the extant English coursebooks were dominated by lower-order thinking skills (LOTS) over higher-order thinking skills and critical thinking skills. Frequencies of lower-order thinking skills, such as recalling, comprehension, and factual memorization, were found to outnumber the frequencies of higher-order thinking skills, such as analyzing, evaluating, synthesizing, and creating, encouraging the prevalent practice of rote learning in both general education and EFL education, limiting the opportunities for the development of critical thinking skills of students. Despite the explicit description of integrating critical thinking skills in the NESP (2016-2021) and related education reforms statements, the findings of Phase 1 also discovered a partial alignment between the policy and the practice, highlighting a significant gap for more integration of critical thinking skills into the extant English coursebooks.

Research Objective 2: To develop a critical thinking program for EFL upper secondary school students

The findings from Phase 2 reported that a critical thinking program for EFL upper secondary school students consists of five interrelated components: contextual, conceptual, material, pedagogical, and task-related ones. The contextual component reflects the ministerial constraints, institutional limitations and regulations, grade-level focus, and possibility of implementation in Myanmar's education system, while the

conceptual component reflects the practitioners' perceptions on the concept of critical thinking skills and how they implement critical thinking in reading materials, providing a common platform for developing materials. The material component highlights the types of reading texts, vocabulary teaching, and visual support, while the pedagogical component captures a scaffolding approach for moving from lower-order thinking to higher-order thinking and their preference for individual task formats, reflecting the pragmatic implementation in the classrooms. The task-related component is related to revising reading comprehension questions with higher-order thinking skills while keeping the structure of the existing coursebooks. These five components were interrelated in constituting a contextually relevant and collaboratively developed critical thinking program for EFL upper secondary school students.

Research Objective 3: To explore the affordances and challenges of implementing the critical thinking program reported by focal teachers

The findings of Phase 3 exposed both affordances and challenges of implementing the critical thinking program reported by the focal teachers. In terms of affordances, the developed materials were found to be high in usability and practicability, helping teachers to follow systematically regardless of the classroom constraints. The program was found to enhance the motivation and interest of students, particularly through lexical exercises, and provide more opportunities for the development of critical thinking skills. It was also found that teachers noticed positive changes in students' ability to think beyond the texts. Despite the affordances, some challenges were also found. These include the language barrier when students encounter critical thinking-based questions, as well as the initial resistance of minor students towards the program. All in all, the findings reported that although the program was feasible and beneficial for the critical thinking enhancement, its implementation faced linguistic, pedagogical, and contextual challenges.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Study Overview

It has continuously been called for the integration of critical thinking into education. Critical thinking skills are one of the most widely researched concepts. Despite its vague and abstract nature, critical thinking is highly regarded in every sector of global education. Numerous empirical studies have demonstrated a significant relationship between critical thinking skills and Second Language Education. In addition, the integration of critical thinking into Second Language Education has a positive impact on the development of language proficiency, vocabulary expansion, increased student motivation, and enhanced creativity in productive skills. Teaching critical thinking has become the learning objective in the education policies of different countries: the UK in 1999, Hong Kong in 2000, Malaysia in 2003, China in 2003, and Indonesia in 2010. On the other hand, in Myanmar, the term critical thinking was not so popular among Myanmar educators and policymakers until the 2010s. However, bearing in mind the significance of critical thinking and realizing the importance of education reform after the democratization process after the 2010s, Myanmar launched an educational reform and introduced the National Education Strategic Plan (NESP) (2016-2020), followed by the new education system known as K+12, and the publication of new learning materials and coursebooks. However, only a few studies explored the extent to which the national curriculum in Myanmar provides opportunities for the critical thinking skills of students. Therefore, this study was carried out in three phases to answer the following research questions:

1. What is the current state of critical thinking skills manifested in extant English coursebooks in Myanmar?
2. What are the components of a critical thinking program for EFL upper secondary school students?

3. What are the affordances and challenges of implementing the critical thinking program reported by focal teachers?

This study adopted a research and development (R&D) approach, involving three phases to address each question. The three phases were: the preliminary study phase, the development of the English reading materials for the critical thinking program, and the implementation of the materials for seeking the program's affordances and challenges. Phase 1 investigated the current state of critical thinking skills manifested in the reading materials of Myanmar's extant EFL Upper Secondary English coursebooks. In Phase 2, participatory action research was conducted, involving five in-service teachers to develop English reading materials, highlighting the collaboration between the researcher and practitioners. Phase 3 was the implementation of the materials in the classroom, studying their affordances and challenges of using.

5.2 Key Findings

A summary of the findings of Phase 1 can be categorized into three sections: (1) types of reading texts in the three selected English coursebooks, (2) critical thinking skills embedded in the reading comprehension questions, and (3) a comparison of pre-reform coursebooks and the extant coursebooks in terms of critical thinking skills development opportunities.

In Phase 2, five in-service EFL teachers joined the study to develop the reading materials to enhance the critical thinking skills of their students. Adopting the Participatory Action Research, there were three workshops. First workshop not only decided roles for each co-researcher but also negotiated the components of English reading materials: (1) contextual component, (2) conceptual component, (3) material component, (4) pedagogical component, and (5) task-related component. Based on the decisions of the first workshop, materials were collaboratively developed in the second workshop, producing the first draft of the materials. In the third workshop, the first draft was reviewed and approved.

To explore the affordances and challenges of implementing collaboratively developed reading materials, the data from classroom observations and interview

questions were triangulated. The classroom observation forms studied the teachers' use of the materials, the students' engagement, and the overall effectiveness, while the interview questions were employed to find out the teachers' perceptions of the affordances and challenges of collaboratively developed reading materials. The data from both classroom observation and interview results revealed that the two teachers followed the structure of the developed material in their classrooms. It was found that both teachers used the critical thinking-based questions to encourage students to think critically about the facts in the reading texts. Focal teachers reported that they noticed the development of critical thinking skills of their students. Students in both classes followed the instructions of their teachers and did the activities nearly 90%. Both students and the teachers in the observed classrooms showed a satisfactory positive reaction towards the materials, actively following and working on the instructed activities. The affordances are highly usable, students' engagement in lexical tasks, and the enhancement of students' motivation and engagement. Challenges are the initial resistance of students towards critical thinking-based instructions, the language barrier, the short time for measuring critical thinking, and the nonconcrete nature of critical thinking. Overall, the collaboratively revised materials were reported to be well-received and feasible, and applicable in promoting the critical thinking skills of Upper Secondary EFL students in Myanmar, despite some challenges.

5.3 Discussions

5.3.1 Types of Reading Texts in the Three Selected English Coursebooks

Phase 1 of this study examined the current state of critical thinking skills manifested in extant English coursebooks in Myanmar. This study also reported the inclusion of different types of reading texts in the extant coursebooks. The analysis revealed that both non-literary texts and literary texts were employed across the three extant English coursebooks. Nonetheless, non-literary texts were found to be more overwhelmingly prevalent than literary texts. Although there are 12 units in each coursebook, each book covers only 1 unit for literary text and 11 units for non-literary

text, showing in percentage that 8.33% was the literary text, while 91.66% were non-literary texts.

The imbalance in the inclusion of texts has impacts on the opportunities for the development of critical thinking. In terms of critical thinking skills development, literary texts have been recognized in EFL/ESL education for providing chances for students to analyze, evaluate, and reflect since literary texts are potential for different perspectives, implicit meanings, and culturally diverse themes (Rosenblatt, 1978; Lazer, 1993; Shukri & Mukundan, 2015). Rosenblatt (1978) also argues that literary texts enable students to shift from literal understanding to an analytical, evaluative, and interpretative approach, which are closely linked with critical thinking skills. Ilyas also pointed out that reading comprehension questions would encourage students to think critically, or have the potential for using critical thinking skills associated with a literary text (Ilyas, 2015). The findings of this study are consistent with the theoretical claims by Ilyas (2015) and Shukri and Mukundan (2015) that reading comprehension questions after literary texts are asking for higher-order thinking skills more frequently than after non-literary texts. For instance, questions falling into reasoning and evidence (Q6) and perspective (Q9) were commonly found in literary texts such as *The Prodigal Son* in grade X, *The Last Leaf* in grade XI, and *A Day's Wait* in grade XII. These questions are asking students to be in the role of the characters in the stories, to provide alternative perceptions, to provide reason, and to justify a situation in a different context, providing chances for analytical and evaluative skills, which are associated with critical thinking. Despite the evidence of such higher-order thinking-based questions in non-literary texts, the frequency of the questions after literary texts is obviously higher.

According to Wallace (1992) and Grabe and Stoller (2011), non-literary texts tend to prioritize factual understanding and surface-level understanding if they are not carefully selected. At the same time, though critical thinking-based tasks can be embedded after non-literary texts, it provides fewer opportunities than the ones in literary texts, whose questions are normally open-ended and have potential for asking different perspectives, assumptions, and evaluative ideas, which are important dimensions of critical thinking. Consequently, the prevalence of non-literary texts across the selected coursebooks in Myanmar is another additional contribution to the

domination of lower-order thinking skills over higher-order thinking, limiting opportunities for practicing analytical and evaluative skills.

5.3.2 Critical Thinking Skills in Reading Comprehension Questions

In those extant coursebooks, the critical thinking skills-related tasks were limited. Though they are reported to have been revised in terms of promoting critical thinking skills according to the framework set by the NESP (2016-2021) and education reforms, lower-order thinking skills-based questions (63.38%) were found to be more prevalent than the higher-order thinking skills-based questions (36.60%). The imbalance in the contribution of thinking skills indicates that extant coursebooks do not provide as many opportunities for critical thinking competencies as mentioned in the recent policy statements.

Compared to the pre-reform ones, a modest improvement can be witnessed in the extant coursebooks. However, the findings also reflect the consistency of the extant coursebooks with the pre-reform ones, in contrast to the recent reform's emphasis on critical thinking integration into the revised curriculum. The focus on lower-order thinking skills over higher-order thinking skills can impact the performance of students (Ekalia et al., 2025). This may result in difficulties for students to handle the challenging issues in their later educational journey and professional sectors. Though the employment of Bloom's taxonomy (1956) and the revised Bloom's taxonomy (Anderson & Krathwohl, 2001) in designing the post-reform coursebooks is not explicitly addressed in the NESP (2016-2021), materials developers and content writers in Myanmar were guided by those frameworks (San, 2020; Noe, 2020). Metacognitive studies suggest that higher-order thinking-based questions should begin with the key words such as analyze, break down, compare... for analyzing skill, compare, contrast, and criticize... for evaluating skill, and combine, compile, create for creating skill (Anderson & Krathwohl, 2001). However, most questions in the three selected coursebooks were found to begin with wh-questions such as "what..., where..., and when...?", assigning students to recall the information provided in the reading text rather than to analyze, synthesize, and evaluate the information.

The frequent occurrences of LOTS in the selected coursebooks can be rooted in socio-political factors. The long tradition of the rote learning method stems from Myanmar's ancient monastic education for the preservation of scriptures, which has

been influencing the society (Lwin, 2010; Kyaw, 2015). In addition, education in Myanmar has been under authoritarian rule, which views questioning and critical thinking as undisciplined and unacceptable behaviors (Allen, 2018). Again in 2021, Myanmar faced another political shift, which disrupted the momentum of education reforms. This fact reinforces that the education under the political leadership shift of 2021 is similar to the 1962 and 1988 military-controlled education sectors (Callaham, 2022). Anderson and Krathwohl (2001) argue that effective learning materials should provide substantial opportunities for both lower-order thinking skills and higher-order thinking skills, as well as critical thinking skills. The results present a surprising fact that the findings in this study are in line with the recent studies in different contexts. It was reported that reading comprehension questions in Asian contexts focus more on lower-order thinking skills than higher-order thinking skills, and one-tenth of the comprehension questions are for remembering skills (Jones, Harland, Reid, & Bartlett, 2009; Hashim & Ahmed, 2021). Ilyas (2015), Solihati and Hikmat (2018), and Hasnah et al. (2024) reported that Indonesian EFL coursebooks fail to address the development of critical thinking skills, as those coursebooks were outnumbered by lower-order thinking skills. Some argue that coursebook publishers might consider catering to weaker students, integrating the traditional approach of teaching (Shuyia & Renandya, 2019). However, the coursebooks should not only facilitate students' learning but also improve students' critical thinking (Hanesova, 2024). An excessive focus on only lower-order thinking skills limit the opportunities for students to practice the skills of analysis, evaluation, and creation, encouraging rote learning in Myanmar's education despite the reform guidelines for including 21st-century competencies-based tasks.

In sum, the frequencies of critical thinking skills in the selected English coursebooks are less than the frequencies of lower-order thinking skills, providing little opportunity for students to improve their critical thinking skills. Reading comprehension questions in all of the extant coursebooks do not provide a satisfactory number of opportunities for critical thinking skills development. Out of 377 reading comprehension questions in all three books, only 138 questions are higher-order thinking skills, while 239 are lower-order thinking skills. Although the improvement of critical thinking in the extant coursebooks is evident compared with the pre-reform

coursebooks, the overall enhancement of critical thinking opportunities remains limited.

5.3.3 Alignment between the Policy and Practice

This study also found how the extant English coursebooks for upper-secondary students in Myanmar reflect the education policy statements on critical thinking skills. The findings highlighted that the extant coursebooks are in partial reflection of the NESP, stating “competencies, creativity and critical thinking skills and cultural and ethical values” of students shall be improved (NESP, 2016-2021, p.5). The finding that LOTS constitutes 63.39% of all questions across the three coursebooks echoes similar patterns found in pre-reform English textbooks by Aung (2013), Aung (2015), and Soe & Hlaing (2016), who reported LOTS as more dominant than HOTS. This suggests that despite explicit policy statements emphasizing critical thinking in the National Education Strategic Plan (2016-2021), the actual implementation in coursebooks shows only modest improvement. This parallels Forman's (2014) findings in Thailand, Shuyi and Renandya (2019) in Singapore, and Ilyas (2015) and Solihati & Hikmat (2018) in Indonesia, where educational policies promoting critical thinking were similarly not fully reflected in ELT materials, suggesting a regional challenge in translating policy into practice and a revision of coursebooks to integrate more activities to promote critical skills of students. Moreover, Solihati & Hikmat reported that the deviation between policy and practice is based on two reasons: lack of creativity among material developers and lack of a clear concept of critical thinking (Solihati & Hikmat, 2018). Material developers in Myanmar might not pay enough attention to include higher-order thinking skills in the extant coursebooks. Otherwise, the then material developers might not have a clear instruction and guidance from the NESP (2016-2021). In addition, the shift of political and policy leadership in 2021 can be another challenging issue for the material developers. The 2021 political turbulence saw many educators leaving their respective institutions. Since then, Myanmar has been suffering from a lack of experienced educators and material writers. However, the emerging policy makers continued the implementation of the NESP. In fact, the NESP was drafted, proposed, and approved by the government (2016-2020). But, a subsequent change of political leadership in 2021 resulted in the cessation of all reforms and a reversion towards the conservative and exam-focused system (Symaco and Hayden, 2024).

Furthermore, the study's findings also confirm the fact pointed out by Callaham, that the education system under the new political leadership is very similar to those under the education systems following the 1962 and 1988 coups (Callaham, 2022). As discussed above, the extant coursebooks provided more opportunities for critical thinking, distributing 36.60% of the reading comprehension questions. Based on the NESP framework, the materials developers reduced the inclusion of LOTS from a high frequency of 73.14% in 2013 and 89.16% in 2015 to 63.39% in 2021 and increased the representation of HOTS from a minimum frequency of 26.86% in 2013 and 10.84% in 2015 to 36.60% in 2021. Although the increase is not significant, upper-secondary students can enjoy chances to practice their critical thinking skills at the basic education level, and these textbooks serve as foundations for critical thinking skills development when they shift to the tertiary level.

Concerned with the partial alignment between policy and implementation, there are two reasons: a lack of creativity among material developers and a lack of a clear concept of critical thinking. These factors are also reflected in the Myanmar context. In addition to the shortage of creativity and critical thinking concepts, Myanmar faces additional challenge rooted in political and policy instability. The findings of the study confirm that the political leadership shift interrupted the momentum of education reforms and reinforced the rote learning-based education system, and placed less emphasis on critical thinking skills development. As a result, the selected English coursebooks fail to provide a satisfactory number of opportunities for critical thinking skills development, contrary to the NESP policy's emphasis on the inclusion of critical thinking skills in the post-reform books.

To sum up, the current state of critical thinking skills manifested in the reading materials of upper secondary English coursebooks in Myanmar does not provide enough opportunities for the development of critical thinking competencies of students. In addition, although the extant English coursebooks were introduced in response to the NESP (2016-2021), their alignment with the policy remains partial, and only modest improvements in were observed when compared with the pre-reform coursebooks.

5.3.4 Collaboration between Researchers and Practitioners in Developing Materials

In this section, how the collaboratively developed reading materials can be interpreted in terms of the study's objectives, theoretical framing, and contextual realities of EFL education in Myanmar, foregrounding the collaboration between the researcher, the practitioners, and the emergent components for the program, emphasizing the insights through the collaboration within the participatory action research (PAR).

5.3.4.1 Significance of Researchers and Practitioners Collaboration

The collaborative process between the researcher and the practitioners in developing materials can be perceived as a major theoretical backbone of this study. In this study, in-service EFL teachers were encouraged to shift from the role of practitioners to the role of co-researchers in designing and developing materials for their classrooms, empowering them to contribute their knowledge and insights to the research and development process. This nexus reflects the principles of action research, emphasizing shared ownership, reflexivity with and contextual responsiveness, and bridging the long-standing gap between research and practice (Kemmis, McTaggart & Nixon, 2014; Li & Gao, 2025) The PAR collaboration encouraged the practitioners to design the materials based on their real classroom experiences and insights rather than abstract pedagogical ideals, contrasting with the top-down process. This process ensured the effectiveness and feasibility of critical thinking-enhanced materials that reflect the experiences of teachers in designing the pedagogical nature. In addition, this process not only bridges the gap between the research and practice but also narrows down the gap between the policy expectations and classroom realities.

5.3.4.2 Components of a Critical Thinking Program for EFL Upper Secondary School Students

This section discusses the interrelated components of the critical thinking program for EFL upper secondary students. Specifically, the discussion focuses on (1) how contextual alignment enabled reform, (2) how critical thinking was reconceptualized as embedded cognition, (3) how material selection mediated cognitive access, (4) how scaffolded pedagogy operationalized higher-order thinking, and (5) how task familiarity reduced cognitive resistance.”

Contextual Component

The emergence of the contextual component of the developed materials reflects the limited situation of institutional and ministerial rules and regulations on the use of materials. In centralized institutional contexts, the ministerial-level department normally holds the curriculum authority in educational leadership, restricting teacher autonomy and limiting pedagogical transformation (Priestley, Biesta, & Robinson, 2015). In Myanmar, where the top-down process is a common practice in education, coursebooks or learning materials are written and approved by the Basic Education Curriculum and Textbook Committee, Ministry of Education. Any new or unprescribed texts used in the classroom without the authorization of the Ministry shall bring institutional consequences to both administrators and teachers. In such a restricted context, radical curricular transformation is impractical as it may bring a conflict between the policy makers and the practitioners, leading to the misalignment of policy expectations. As a strategic response to those constraints, adaptation within the existing systems can bring sustainable pedagogical transformation (Fullan, 2007; Hargreaves & Shirley, 2009). Therefore, the collaborative decisions among the co-researchers for the contextual component resonate with the theoretical support on curriculum implementation that embedding the higher cognitive demands within the extent of the coursebook structure creates spaces for agency in restrictive contexts. (Ball, Maguire & Braun, 2012). In addition, the contextual component ensured the feasibility of the material implementation and prevented the resistance of teachers, administrators, and students, rather than a direct opposition to the institutional regulations.

In addition, the collaborative process enhanced both the feasibility and the legitimacy of the developed materials since it directly reflects the classroom realities, exam-oriented nature, and accountability. Datnow and Park (2019) contend that the educational change without reflecting the real situations of the teachers or stakeholders may result in resistance and unnecessary consequences to the reform, ultimately leading to the failure of reforms. On the other hand, the reforms that recognize the pedagogical practices of teachers are more likely to be sustained.

To enhance the critical thinking of students, this study revealed that no radical change or opposition to the existing structure is required. As Anderson and Krathwohl (2001) and Vygotsky (1978) suggest, the critical thinking of students can be

enhanced through the scaffolded process even when the existing materials cannot satisfactorily support the cognitive development. In policy restricted context like Myanmar, the potential of educational transformation does not reside in macro-level curriculum reform but in the embedding of critical thinking-oriented tasks within the permitted framework. This component suggests that adapting to the existing rather than radical change, and fully opposed to institutional regulations sustain the reforms. In addition, it was found that the embedding critical thinking-based tasks in the nationwide used prescribed tasks provides a variable approach for a sustainable reform in top-down education contexts like Myanmar.

Conceptual Component

The conceptual component is the second emerging component of the collaboration process and is also a central component of the program. In this process, critical thinking was conceptualized as a decontextualized and transferable skill but was treated as an embedded process in the text, encouraging students to interpret, reason, analyze, and evaluate the information. This component reflects the theoretical support for critical thinking that critical thinking can be developed through sustained engagement with a domain instead of abstract skills training and separable from subject matter (McPeck, 1990; Willingham, 2007; Facione, 2015).

In addition, this component resonates with the fact that EFL learners should acquire both cognitive skills and linguistic skills while learning a second language (Grabe, 2009; Koda, 2005). Ennis (1992) suggests three ways to embed the critical thinking concept in the materials. They are the infusion, the immersion, and the mixed approach (Solihati & Hikmat, 2018). Among three approaches, the immersion approach is more likely to be successful in an educational setting (McPeck, 1981; Angeli & Valanides, 2009). This results in the embedding of critical thinking tasks into the existing materials, reflecting the cognitive load theory by Sweller (1988). Sweller (1988) suggests that students may fail to achieve comprehension and increase the cognitive loading when critical thinking is treated as an additional item to the material. Consequently, the conceptual component reflects not only as a mere definition of critical thinking but also as a pedagogically transformative approach to integrate cognitive skills into language skills.

Material Component

In contrast to the existing coursebook, the third component, the material component, emerged from the collaborative decision of the co-researchers. The existing coursebooks, as discussed in 5.3.1, were dominated by non-literary texts, limiting opportunities for the development of students. Despite the linguistic practice provided by the extant coursebooks, phase 1 revealed that there is a gap between the coursebook and cognitive development. Bridging that gap, the co-researchers collaboratively decided to include a literary text. Inclusion of both literary and non-literary texts enables students to engage with the texts, reflecting the diverse experiences and interpretive and evaluative thinking. This approach is in alignment with the suggestion by Tomlinson that material writers should include texts to promote students' motivation and interest, developing their cognitive skills (Tomlinson, 2012). In contrast to the existing coursebooks, as a material component for the critical thinking program, the developed materials included reading texts that provide familiar and culturally oriented content, providing more opportunities for students to engage in higher-order thinking skills.

In addition, as Lazer (1993) and Shukri and Mukundan (2015) suggest, literary texts can provide narrative features and moral dilemmas, which can encourage students to use their analytical and evaluative skills. At the same time, non-literary texts can also offer real-world experiences that demand critical reasoning if they are selected carefully. The reflections of the co-researchers align with the theoretical support, leading to the inclusion of both literary texts and non-literary texts. And, the co-researchers agreed to adopt the first five non-literary texts and to include a culturally familiar non-literary text and a literary text. The culturally familiar non-literary text is about a traditional festival in Myanmar, which emphasizes the result of working in unity, while the literary text is adapted from the story "The Happy Prince" by Oscar Wilde. The selection of Happy Prince by Oscar Wilde reflects the diverse educational backgrounds and preferences of the co-researchers. As presented in Chapter 4, the three co-researchers finished their first degrees from the University of Education, while the two finished their degree specializing in English from the University of Arts and Science. In both types of University, English literature has to be studied as a core subject. This is likely to reflect the co-researchers' preferences on the inclusion of a

piece of English literature. The integration of literary texts into the materials reflects the diverse perspectives of EFL teachers in this study. The perspective is possibly rooted in their personal and professional experiences of using diverse texts along the history of EFL education in Myanmar, as discussed in Myanmar. Meanwhile, the promise of literature in promoting critical thinking is found to be higher than non-literary (Shukri & Mukundan, 2015; Ilyas, 2015; Venugopalan, 2019). It has also long been pointed out that literature can not only enrich cultural awareness and language acquisition but also improve opportunities for sharing feelings and viewpoints (Lazer, 1993). Many empirical studies have revealed positive effects on the development of critical thinking of students (Jarvis, 2000; Chang, 2009; Sabeti, 2011). Therefore, the insights on teaching literature by teachers were in alignment with the theoretical support of advocates for literature in the language classroom. Based on not only the reflections of teachers but also the theoretical and empirical evidence, the adapted version of “A Happy Prince” was selected as a unit. In addition, to follow the structure of the extant coursebook, some non-literary texts were revised. Hta-ma-nei Feast, written by Khin Myo Chit, was a timely cultural reflection of Myanmar culture. Myanmar is composed of different and diverse ethnic groups. Similarly, in an EFL classroom, students are in different religious, social, and ethnic backgrounds. The selection of non-literary by Khin Myo Chit, a prolific Burmese writer, encourages the theme of unity and co-existence. As the ingredients in a Hta-ma-nei Feast are diverse but are in unity, the theme addresses the timing needs of the context. Though the inclusion of local cultural contents in most ELT materials is being downplayed, the materials that raise local cultural awareness are effective for learners (Tomlinson, 2012).

By providing culturally familiar texts embedded with critical thinking-based tasks, students can be mediated through linguistic, content, and cognitive demands, reducing cognitive loading (Sweller, 1988). These materials can serve as a medium within learners’ zone of proximal development as students are brought from the reading texts, which they are familiar with in their extant coursebooks, to unfamiliar and challenging texts, whose questions are constructed to scaffold their cognitive progression from literal comprehension to analytical and critical process. In sum, the material component shows that culturally familiar texts and literary texts providing a morally argumentative process can enable students to learn both linguistic competency

and cognitive skills at the same time, bridging the gap between the policy constraints and cognitive challenge. The material component also revealed the finding that consideration of including culturally reflective and familiar texts is likely to not only motivate students to learn but also develop their cognitive skills in a scaffolded way particularly in culturally sensitive EFL contexts.

Pedagogical Component

Another key component that emerged from the collaborative decision is the systematically scaffolded pedagogical component for cognitive progression. The questions were arranged from lower-order to higher-order thinking, reflecting the hierarchical structure of Bloom's taxonomy to ensure scaffolding (Anderson & Krathwohl, 2001). Instead of teaching critical thinking as a standalone skill, understanding and comprehension of the texts and the questions serve as a stepping stone for students to reach higher-order thinking skills such as analysis, evaluation, and creation.

Another significant finding of this study is that the scaffolded or structured progression is important in exam-oriented contexts like Myanmar, where students do not have prior exposure to critical thinking-based tasks. Davies (2013) and Tan (2017) argue that educational traditions in most Asian contexts, like Myanmar, encourage the exact transmission of facts and knowledge rather than reasoning and analytically based arguments. Instead of a radical and abrupt transformation to the deep-rooted cultural nature, critical thinking should be enhanced through structured progression and scaffolded engagement. The reason why most Asian students are reported to lack critical thinking is influenced by cultural norms, but not by the lack of cognitive capacity. From this perspective, students can be trained in cognitive skills through the provision of scaffolded lessons.

Teaching and learning to promote critical thinking should not be a goal, but should be a sustainable process (Halpern, 2014). Without the structured progression, students are likely to struggle with the challenging questions, and the development of critical thinking may fail. They should be scaffolded through the whole process (Gunawardena & Wilson, 2021). Otherwise, some students might be left behind, and the learning process would be in vain. Therefore, the questions were designed to scaffold students in developing their critical thinking skills. The pedagogical

component also reflects the socio-cultural theories of learning that guided participation and scaffolded learning are significant for helping students develop cognitive skills (Vygotsky, 1978). It was also found that to avoid cognitive loading of students or to introduce critical thinking-based tasks in contexts where there are no prior cognitive tasks, scaffolding or structured progression-based tasks can be a coping mechanism.

Task-based Component

The introduction of a wholly new material to the classroom in the middle of the semester may bring undesirable consequences not only to the material itself but also to students, leading to the total failure of the implementation. Therefore, it was found that retaining the familiar tasks format with the embedding of critical thinking-based tasks can help students engage in the tasks without challenging the current situation. This finding also resonates with recent findings in instructional psychology, which suggest that students can be encouraged to engage in higher-order thinking skills by reducing unnecessary cognitive load in tasks, thereby allowing them to rely on working memory resources (Sweller et al., 2011; Fischer et al., 2023). Meanwhile, the OECD (2025) reports that familiar tasks embedded with cognitive challenges help sustain students' engagement and shift to a higher cognitive level of thinking. This study revealed that students' cognitive innovation can be scaffolded within the familiar instructional contexts instead of the complete transformation of the existing curriculum. In other words, if tasks in the program are familiar to students, they can move to higher-order thinking skills without disruption or inconvenience.

5.3.5 Affordances and Challenges of Implementing the Materials in the Class

The affordances and challenges of the collaboratively developed materials were revealed through the triangulated data of interviews and classroom observations. Pairing interviews and classroom observations enables the researcher to understand teachers' beliefs about their own practices (Bolitzer, 2020).

Teacher Acceptance and High Usability

A significant finding of the implementation is the high usability and teacher acceptance of the material. While the recent research reveals that the involvement of teachers is important in sustaining educational innovations, this study reports that the collaboration between the researcher and the practitioners is not only able to foster the ownership of the materials but also to shape the engagement of students (Fullam, 2007).

The successful implementation of the materials developed by the focal teachers demonstrates that the collaborative process for material development reflects both the professional investment of teachers, resulting in a 90% completion rate of the critical thinking-based tasks, as reported in the classroom observation. It also shows the empirical evidence that having ownership in the materials has a remarkable impact on both students' engagement and the feasibility of implementation.

In addition, it was identified that developing materials through teachers' collaboration has a direct link with the high usability of the materials. The nationwide prescribed materials normally come from the policy expectations and statements, largely neglecting the role of teachers and their workload, situations, and time constraints. On the other hand, this study contributes a novel finding that the collaboration of teachers not only reflects the practical situation of practitioners but also the necessities of their students in terms of cognitive skills. In addition, having an alignment with the teachers' workflow is critical in determining the acceptance and effectiveness of the materials.

The reports of the focal teachers on the effectiveness of the materials in promoting critical thinking and motivating students are interrelated. While the previous studies do not highlight that connection, this study found that both the cognitive development of students and the development of their motivations can be enhanced simultaneously through the collaborative process. Therefore, this study provides new findings that the collaborative process between the researcher and the practitioners can be an alternative way in the material development process principles.

Finally, this study also suggests that involving teachers in designing and developing the materials can be a facilitating factor between the introduction of reforms and learning expectations. Rather than performing the function of passive practitioners, the active participation of teachers can help bridge the instructional nature and the realities of the classrooms. This study reveals an underexplored aspect of the agency of teachers in developing materials, and the collaboration of teachers in it can enhance the acceptance and increase the usability of the materials.

Student Engagement as a Facilitating Factor in Critical Thinking Development

The findings show that students' engagement throughout the lessons reflected how the material design relates to the critical thinking enhancement. The active

participation of students in pre-reading vocabulary tasks and following activities shows that the motivation of students and their cognitive development are interrelated.

While Nunan (2004) and Harmer (2007) suggest that the learning materials in which students actively participate can create chances for them to improve cognitive capacity, this study extends this in a way that reducing the linguistic load of students through scaffolding lessons is effective in encouraging them to directly move to engage in cognitive skills enhancement tasks. This supports the critical thinking enhancement in second language education by providing a coping mechanism for overcoming the language deficiency, which is one of the major challenges for ESL students to achieve higher-order thinking skills (Peng, 2014; Liang & Feng, 2020). In this study, vocabulary teaching at the beginning of the lesson can function as a scaffolding method to reduce the language barriers of students and to facilitate their engagement in analytical tasks.

Tomlinson (2011) asserts that effective language learning materials should spark students' curiosity, personal relevance, and their emotional engagement. From the perspective of materials development, this study reinforces and extends this theoretical support that the materials which can effectively engage students with the tasks empirically demonstrate the observable behaviors of critical thinking development. Students who performed the tasks are found to show willingness to analyze the textual evidence, provide interpretations, and justify different viewpoints, suggesting the engagement of students is not only motivational but also related to the progression of students to cognitive development.

Observable Critical Thinking Behaviors

The behaviors, such as sharing perceptions, reasoning, and justifying the textual statements, were observed in the classrooms. It suggests that students could shift from literal understanding to evaluative and analytical engagement with the reading texts. Reading instruction in most EFL contexts largely emphasized the retrieval of information, while this study shows that students move beyond literal understanding and comprehension to higher cognitive skills such as analytical interaction with texts, reflecting a developing phase of students in cognitive nature.

The findings of the classroom observation support the theoretical statements by Facione (1990) and Paul and Elder (2006) that frequent exposure to analytical

questioning and evaluative activities can enhance the development of students' critical thinking. In addition, this study reveals a new insight that such an observable development can be seen in a short implementation of time through the use of collaboratively developed materials whose tasks were scaffolded and structured for progression. This development also shows that learners' cognitive development can be supported through the use of texts that are familiar to them.

However, it cannot be deduced that the observed behaviors of students can claim the definitive evidence of the stable development of critical thinking, as its nature is evolving over sustained practice and awareness, and multidimensional (Ennis, 1993). But this development signals the potential of cognitive development constitutes in the structured critical thinking-oriented lessons. Though long-term studies can demonstrate the transferability of critical thinking, this study shows evidence that critical thinking can be initiated through carefully designed materials, reflecting how instructional design bridges the development of cognitive skills and second language education.

Language Proficiency Constraints and Teachers' Strategies

Though the collaboratively developed materials were designed to meet the language level of students, it was found that some students were struggling with the language. Liang and Fung (2020) mentioned that language deficiency blocks the cognitive development of EFL students. This study also extends the theoretical statement that EFL students with lower proficiency in L2 show less engagement not only with the linguistic development but also with the cognitive enhancement. It may lead to the partial failure of the implementation of the material. However, this study also finds out how teachers' simultaneous coping mechanisms, such as code-switching and clarifying instructions, can help overcome students' challenges with the language.

In addition, the findings of the study also counter the existing assumptions that lower language proficiency totally prevents students from engaging with the critical thinking-based tasks. Through code-switching and scaffolded lessons, teachers can help students overcome language barriers to achieve higher-order thinking skills. Therefore, this finding can offer a new insight that language proficiency can no longer be a barrier for students to critical thinking, but critical thinking can serve as a mediating factor for developing both language and cognitive skills.

Cognitive Demands, Learner Adjustment, and Transitional Resistance

The resistance of minor students during the implementation could be perceived as a transitional response to the transformation of expectations instead of seeing it as a sign of pedagogical inadequacy. Students in the learning atmosphere, which is shaped by rote learning-based instruction and assessment may often develop habits on identifying the answers rather than the cognitive practices of using higher-order skills. Consequently, when the materials and instructional practices move from traditional ways to analytical skills-oriented pedagogy, learners may normally experience uncertainty, hesitation, resistance and passive participation. It reflects the empirical findings that students may produce short-term resistance and discomfort to the higher cognitive skills-oriented materials as they need time to adjust with the changing nature (Hammond, 2014)

The present study also suggests that the minor resistance to the materials means the adaptive nature of students in a comprehensive transformation of cognitive process. Myanmar students are used to learning subjects through teacher-centered approach in which the reliance of students on teachers as source of knowledge is evident. The introduction of critical thinking skills-based tasks demanding the use of their cognitive skills shifted them to learner-centered pedagogical way, leading to the procedural insecurity of students.

However, those students later increased their participation through the scaffolded structure, the structured progression-based tasks, code switching, and coping mechanisms of teachers. Therefore, this study suggests that students' resistance can be reduced or diminished through the frequent exposure to the scaffolded tasks. In addition, this study contributes to the existing knowledge in a way that critical thinking is not an immediate result but a developmental process in the long term.

Standing from the pedagogical view, the findings of the study show the significance of critical thinking in a sustained process. Although a short-term implementation of the materials may produce an observed behavior of progression in critical thinking, a deeper understanding of classroom cultures may require a frequent support of critical thinking-based practices. Therefore, this study suggests that critical thinking should not be a result of instructional transformation but a developmental process of pedagogical practices. Thus, the minor resistance of students in the initial

part of the implementation should be interpreted as a part of gradual developmental process, rather than the sign of failure.

To sum up, the initial resistance of minor students displays the cognitive adjustments of learners in the teaching-learning transformation. The resistance can transform into participation through the support of scaffolded mechanism and code-switching process. This study extends a new finding that learners need adjustment phase and support of teachers to achieve a successful transformation of reforms from rote learning-based approach to critical thinking-based approach.

5.4 Theoretical and Practical Contributions

This Research and Development (R&D) study contributes theoretically and practically to the policy and implementation in the context of Myanmar.

Theoretically, these findings of phase one describe the partial alignment between the policy statement of the NESP (2016-2020) and how the actual practice in the coursebooks reflect the policy expectations. The findings also call for the effective implementation of the statements on the educational reforms in Myanmar. Only a few studies are available on the representation of critical thinking skills in EFL coursebooks, and this study fills the gap by analyzing the upper-secondary level EFL textbooks (2021-2023). The findings could practically inform policymakers and material developers to revise the existing materials to reflect the policy statement of the NESP (2016-2020) and the trending skills of 21st-century education.

Practically, through the use of Participatory Action Research (PAR), this study ensured the collaboration of researchers and practitioners, directly contributing to research-informed practice and practice-informed research. In addition, it could bridge the longstanding gap between research and practice in the EFL setting. Moreover, the study can serve as a model for the educational projects in other educationally and institutionally constrained contexts, similar to Myanmar. This study also offers empirical evidence that the collaboration of researchers and practitioners can not only empower teachers but also transform them from the role of passive practitioners to active agents of education reforms. The developed materials were informed by the

practices of practitioners and the learners' characteristics, serving as a model for future studies on the inclusion of critical thinking skills into EFL coursebooks through the bottom-up process. The result of the implementation stage introduced an optional way for the education policymakers and educators in different contexts on how to investigate the opportunities and the challenges of using newly developed reading materials in the classroom. This study serves as a sample for a long-term plan to analyze and revise the existing coursebooks to meet the demands of 21st-century education.

5.5 Limitations

This study was subject to several limitations that may affect the generalization of this study. It was reported that more than 70% of the context was amid the armed conflicts between the government and the anti-government armed groups (Human Rights Council Report, 2023). Consequently, the internal conflicts leave only a few peaceful areas like the Capital city, Yangon, Mandalay, and Pyin Oo Lwin. And yet, it was reported that more armed conflicts would be ongoing during the data collection process (Human Rights Council Report, 2025).

Firstly, the political instability in Myanmar is one of the major limitations that prevented the researcher from meeting with local curriculum experts and academics and investigating their perceptions on the extant materials in terms of critical thinking (Lall, 2021). Moreover, because of the ongoing political clashes and safety concerns in Myanmar, this study was limited to having comprehensive access to schools across different regions, resulting in having access only to upper secondary schools in the selected research site and collecting data from a small number of upper secondary participants.

Secondly, the number of co-researchers who joined the PAR process was limited to five because of the safety concerns of the participants. In addition, due to the instability in the research sites, opportunities for repeated classroom observations and extended collaboration with co-researchers were limited. While teachers' reflections on the developed materials during the implementation phase were valuable, relying only on reflective accounts may limit the extent to which classroom practices could be

independently verified. Despite the limitations, the study provides contextually grounded insights into the affordances and challenges of fostering critical thinking in Myanmar's upper secondary EFL classrooms.

Thirdly, because of the workloads of teachers and armed conflicts happening around the data collection area, the implementation timeframe of materials in the classroom was limited. However, the development of critical thinking among students was observed. Since critical thinking is a longitudinal process, it would need a long-term study to measure cognitive transformation over extended periods of time.

Despite these limitations, this study offers contextually grounded findings for the potential of embedding critical thinking-based tasks into the exam-oriented, institutionally-constrained, and conflict-affected EFL context like Myanmar. In addition, the resilience and commitment of co-researchers were observed during the process, regardless of political and safety concerns. Bearing the limitations in mind, this study offers findings for long-term and multi-dimensional research when concerns are resolved.

5.6 Recommendations

Employing participatory action research (PAR) in this study, this study sets a pioneering direction innovatively, designing and developing the materials from the perspective of a bottom-up process. In Myanmar, teachers can hardly share their insights and reflections on designing and developing learning materials. Throughout the history of education in Myanmar, the top-down process has been a common practice. On the other hand, this study deviates from the conventional way and adopts a bottom-up process. Policy makers and educators can adopt this research method in revising or designing materials through collaborative workshops for teachers.

With the increasing recognition of critical thinking skills in global education, Myanmar education policymakers and educators should consider the integration of critical thinking skills into education. Since her independence in 1948, no significant attempt to introduce critical thinking skills in both education and the social community has been satisfactorily and successfully made. Only after her democratization in 2011,

the newly elected government initiated the education reforms, such as the National Education Law, the Comprehensive Education Sector Review, and the National Education Sector Plan (2010-2016), which was later renamed the National Education Strategic Plan (2016-2020). The term critical thinking skills was mentioned for the first time in the official statement, such as the National Education Strategic Plan (2016-2020), highlighting its importance in the 21st century and revising the new materials, which were reported to embed the 5Cs, including critical thinking skills. However, this study revealed that the existing materials (2021-2025) do not provide a satisfactory number of opportunities for critical thinking skills. More importantly, it was found that the actual practice and the policy are in partial alignment. Therefore, based on the findings of this study, the education policy makers and the materials writers are recommended to revise the existing materials to meet the needs and demands of the policy statements and to align with the 21st-century skills. In addition, teachers are encouraged to adapt the materials to enhance the critical thinking skills of their students. This study recommends that policymakers, materials writers, and teachers conduct a systematic revision of existing materials and teacher training programs.

5.7 Future Research

Regarding the limitations of the study, future research could be done by addressing the contextual, methodological and temporal issues discussed in 5.5. First of all, future research could be done by extending the broader contextual coverage if the safety of participants and the researcher are ensured. It can enable the researcher to have access to more upper secondary schools and strengthen the generalizability of findings and show contextual variations ranging from the rural to urban areas, providing more opportunities to investigate diverse teachers' perceptions and insights on both the extant materials and developed materials. Therefore, subsequent studies could invite a more diverse range of stakeholders: coursebook writers, policymakers, teachers, students, and local educational experts to have a more comprehensive analysis of the extant coursebooks in terms of opportunities and constraints for the critical thinking development of students.

Secondly, since this study employed the Participatory Action Research (PAR), inviting only five in-service EFL teachers, further PAR studies in the post-conflict contexts can include more diverse EFL teachers to deepen collaborative inquiry, enhance reflections, and produce richer data for materials development. In addition, a series of frequent classroom observations and structured interviews with teachers and students could be done to strengthen the triangulation of data and offer comprehensive views into materials revision.

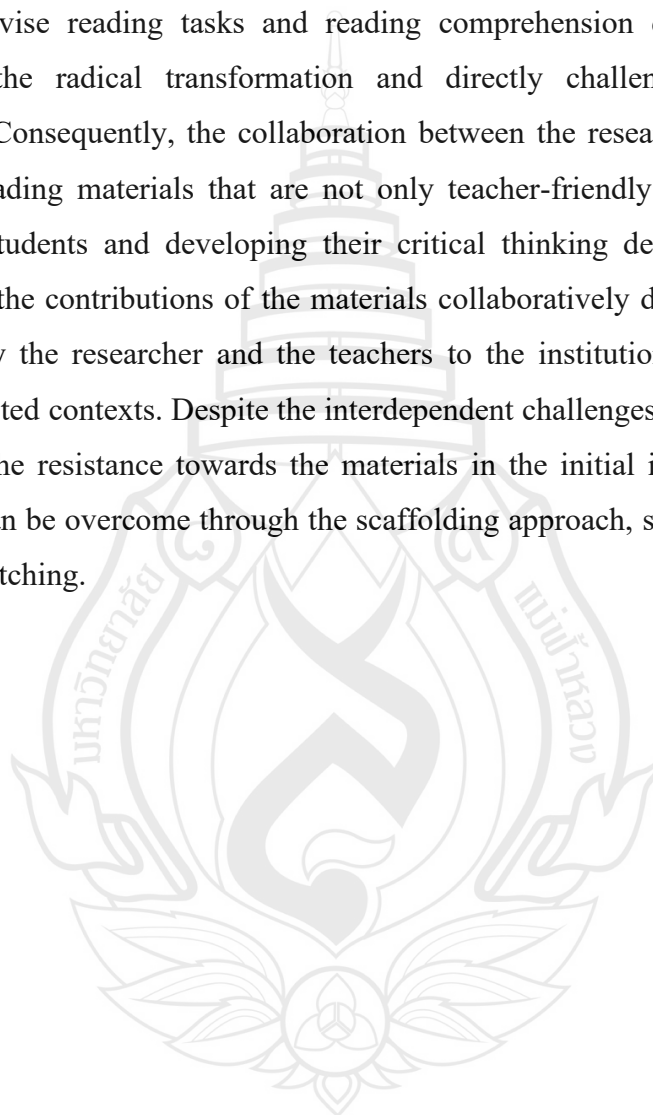
As this study faced armed conflicts and had to deal with the safety concerns of the participants, the timeframe of the study was limited, reducing the frequency of classroom observations. In the post-conflict contexts, future studies could be done by extending the timeframe of study through a series of frequent classroom observations and by conducting a longitudinal study of the critical thinking development of students.

Last but not least, this study investigated the opportunities and challenges of the materials through classroom observations and semi-structured interviews. Future research could implement the developed reading materials in an experimental group, in which the students use the materials and compare the results with a control group, in which students use the standard materials. The comparative study of the results of critical thinking development can offer sound evidence of the opportunities and challenges of the materials in the real classroom.

5.8 Conclusion

This research and development study offers valuable insights into the intersection of research-informed teaching and teaching-informed research, highlighting the current state of critical thinking skills as reflected in existing English coursebooks in Myanmar and the potential for collaboration between researchers and practitioners. The coursebooks do not provide enough opportunities for students to practice their analytical skills, and Myanmar EFL students need more space for their cognitive development. In addition, the existing coursebooks for Upper Secondary EFL students in Myanmar do not fully reflect the policy expectations of the education reforms, highlighting the need for revision and the collaboration between material

developers and practitioners at the micro level. Therefore, a critical thinking program with reading materials was developed through the collaboration between the researcher and five practitioners, providing opportunities for students to practice their critical thinking skills through scaffolded tasks and reducing their cognitive loads and transitional discomfort. Regardless of the institutional constraints, the co-researchers agreed to revise reading tasks and reading comprehension questions rather than conducting the radical transformation and directly challenging the ministerial regulations. Consequently, the collaboration between the researcher and practitioner generated reading materials that are not only teacher-friendly but also effective in motivating students and developing their critical thinking development behaviors, highlighting the contributions of the materials collaboratively designed, adapted, and developed by the researcher and the teachers to the institutionally constrained and conflict-affected contexts. Despite the interdependent challenges, such as the language barrier and the resistance towards the materials in the initial implementation, those challenges can be overcome through the scaffolding approach, structured progression, and code-switching.



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APPENDIX A

SEMI-STRUCTURED INTERVIEW GUIDE FOR DEVELOPING READING MATERIALS FOR CRITICAL THINKING USING PARTICIPATORY ACTION RESEARCH (PAR)

Aim – to find out the insights of Upper Secondary EFL teachers in developing a critical thinking program for Upper Secondary EFL students

Phase stage and type : Phase 2/Pre-development

Data Identification

Date :
Code and Number :
Duration :
Site/Venue :
Interviewer :
Interviewee :

Section 1: Background Information

- 1.1. How long have you been teaching Upper Secondary EFL students?
- 1.2. What grades are you currently teaching?
- 1.3. How long have you been using the existing EFL reading textbooks?
- 1.4. Could you define the meaning of critical thinking in the EFL context?
- 1.5. How do you think the role of critical thinking skills in the EFL context?
- 1.6. How do you think the critical thinking skills can be integrated into the EFL reading?
- 1.7. Have you ever received any formal training for critical thinking? If yes, please tell me more details about the training.

Section 2: Current practices

- 2.1. How much do you feel confident using the reading materials of the existing EFL textbooks' provision of critical thinking skills for your students?
- 2.2. Have you ever adapted the reading materials in existing EFL textbooks to develop your students' critical thinking skills? How?
- 2.3. How much amount of time a week do you normally have for the reading lessons?
- 2.4. What activities, tasks, and exercises do you incorporate into the existing EFL textbooks?
- 2.5. What challenges do you face in incorporating those activities, tasks, and exercises to develop the critical thinking skills of your students?

Section 3: Principles

- 3.1. What language features do you think we should include in our reading materials? For example, Vocabulary or grammar?
- 3.2. How can we make sure that the materials include language items in daily communications?

Section 4: Content and Sequencing

- 4.1. How many units should we include in our reading materials?
- 4.2. What text types should we include in our reading materials for critical thinking skills development?
- 4.3. What topics or themes do you think are the most relevant and engaging for Myanmar's upper secondary students?
- 4.4. What kinds of reading texts should you include? Should you include texts from international sources, local contexts, or both? Why?
- 4.5. According to CEFR level, what level of difficulty in reading texts do you think is the most appropriate for EFL upper-secondary students? Why do you think so?
- 4.6. How should you sequence the tasks? Should easier tasks come before more complex ones? Why or why not?

Section 5: Format and Presentation

5.1. What visual features (e.g., illustrations, charts, graphic organizers) do you think would make reading materials more effective?

5.2. Do you think students prefer open-ended tasks (e.g., discussions) or tasks with clear answers (e.g., multiple-choice)? Why?

5.3. Are there any cultural considerations that we should avoid to ensure the materials are respectful and inclusive?

5.4. What practical features should the reading materials have to ensure they can be used, particularly in Myanmar's classrooms (e.g., format, size, durability)?

5.5. How much amount of time do you think we should provide each reading lesson to promote critical thinking?

5.6. What activities will we get our learners to do in our reading materials to foster critical thinking?

5.7. What kinds of activities do we include to foster critical thinking?
Individual or in pairs or groups to foster critical thinking? Why?

5.8. Will we pre-teach these items before the learners meet them in the reading passage or not? Why?

5.9. Will we have a pre-reading discussion or get our learners to discuss the text after the reading?

5.10. What shall we do to have a good balance of activities in each lesson?

APPENDIX B

CLASSROOM OBSERVATION FORM

Date of Observation:

Place of Observation:

Number of Students:

Grade Level:

Duration of Lesson:

Teacher's Code Name:

The topic of the Lesson:

Sr No.	Section	Elements	Yes	No	Notes
1.	Teacher's utilization of the reading materials	The teacher introduces the lesson using a brainstorming lead-in provided in the materials to encourage thinking practices			
2.		The teacher follows the lesson sequence (pre-reading, while reading, and post-reading) very well, as prescribed in the reading materials.			
3.		The teacher uses open-ended questions from the materials to encourage students to think.			
4.		The teacher provides clear and comprehensible instructions as provided in the materials.			
5.		The teacher encourages students to use their skills of analyzing, evaluation, and inference during their reading lesson.			
6.		The teacher is ready to solve difficulties encountered during the lesson. (e.g. lexical and grammatical complex)			
7.	Engagement of students in using the materials	Students show enthusiasm towards the developed reading materials.			
8.		Students engage in almost every activity in the materials.			
9.		Students use the guides/ prompts in the materials to share their thoughts during the lesson.			

10.		Students work effectively in group works or pair works as guided by the materials.			
11.		Students actively engage in activities as guided by the materials that demand critical thinking skills.			
12.		After using prompts/guided questions in the materials, students show improved critical thinking through their answers.			
13.	Use of Reading Materials	The topics, themes, and genres in the reading materials are engaging and appropriate for the students.			
14.		The format and layouts of the reading materials provide support to make the learning process effective.			
15.		The level of difficulty of the content, tasks, etc in the materials. are in alignment with students' proficiency levels.			
16.	Overall Effectiveness	The reading materials and activities effectively develop the critical thinking skills of the students.			
17.		The activities in each lesson are completed within the allotted time.			

APPENDIX C

SEMI-STRUCTURED INTERVIEW FOR THE INVESTIGATION OF OPPORTUNITIES AND CHALLENGES OF IMPLEMENTING THE READING MATERIALS REPORTED BY FOCAL TEACHERS

Aim – to find out the experiences of Upper Secondary EFL teachers in implementing the reading materials for the critical thinking skills development of Upper Secondary EFL students

Phase Stage/Type : Phase 3/Post-use

Data Identification

Date :

Code and Number :

Duration :

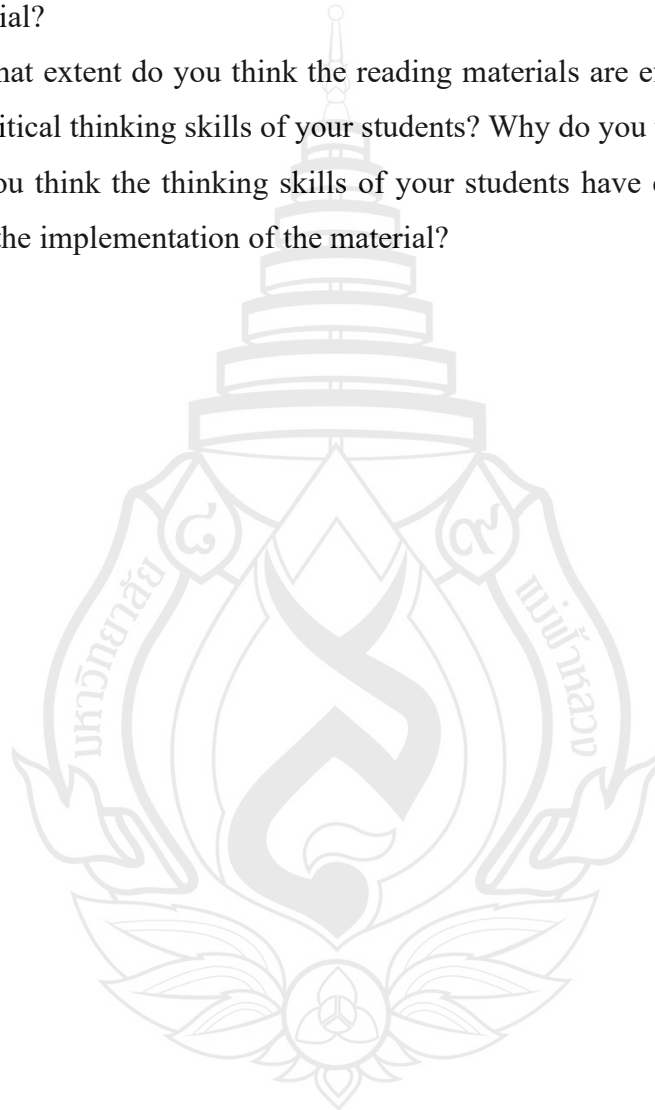
Site/Venue :

Interviewer :

Interviewee :

1. How did you use the materials? Did you follow all sections or select some parts to use? why?
2. What elements of the reading materials worked well for you?
3. What elements of the reading materials did not work for you?
4. What elements of the reading materials did you enjoy most? Why?
5. What elements of the reading materials did you enjoy least? Why?
6. What problems did you encounter in delivering the materials?
7. What elements of the reading materials did your students enjoy?
8. What elements of the reading materials did your students find difficult?
9. If students found elements of the reading materials difficult, what specific feedback or reactions did they share?
10. How did you help them to solve their difficulties?

11. What specific challenges did you encounter during the implementation of the material?
12. What kinds of resources do you think you need for the effectiveness of the material?
13. What suggestions do you have for the betterment and effectiveness of the material?
14. To what extent do you think the reading materials are effective in developing the critical thinking skills of your students? Why do you think so?
15. Do you think the thinking skills of your students have changed in some way after the implementation of the material?

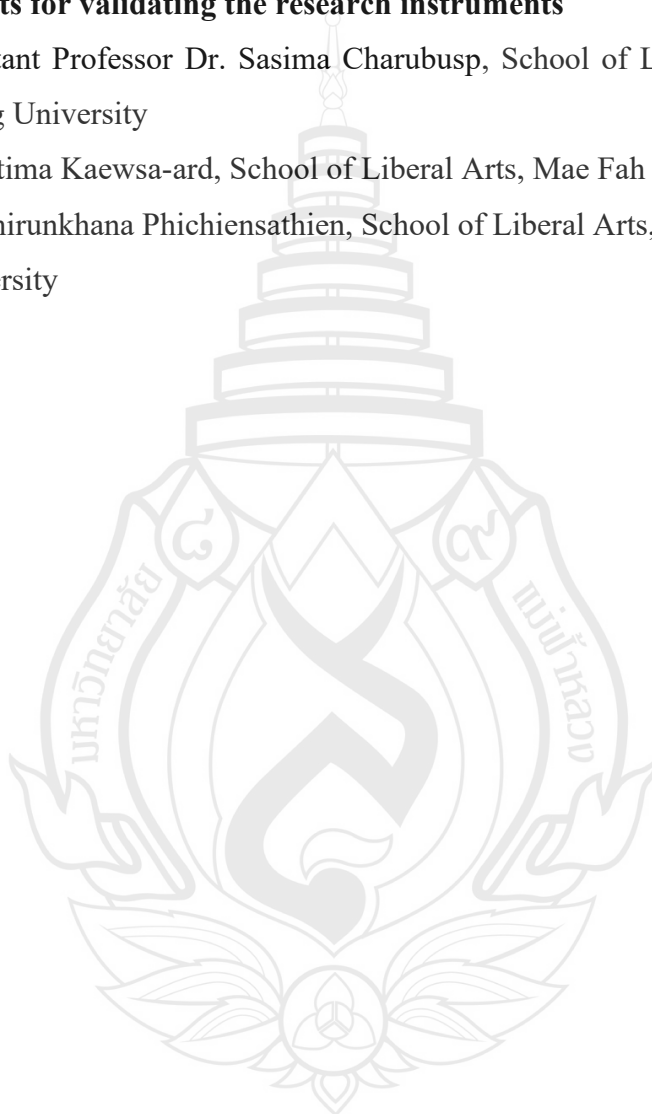


APPENDIX D

A LIST OF EXPERTS

List of experts for validating the research instruments

1. Assistant Professor Dr. Sasima Charubusp, School of Liberal Arts, Mae Fah Luang University
2. Dr. Atima Kaewsa-ard, School of Liberal Arts, Mae Fah Luang University
3. Dr. Phirunkhana Phichiensathien, School of Liberal Arts, Mae Fah Luang University



APPENDIX E

THE EXPERTS' EVALUATION OF THE SEMI-STRUCTURED INTERVIEW QUESTIONS FOR DEVELOPING ENGLISH READING MATERIALS TO ENHANCE THE CRITICAL THINKING SKILLS OF THE UPPER SECONDARY EFL STUDENTS IN MYANMAR

Objectives	Content	Experts			$\bar{x}$	Interpretation
		1	2	3		
1. To find out the background information of the participating teachers	1.8. How long have you been teaching Upper Secondary EFL students?	+1	+1	+1	1.0	accept
	1.9. What grades are you currently teaching?	+1	+1	+1	1.0	accept
	1.10. How long have you been using the existing EFL textbooks?	+1	+1	0	0.67	accept
	1.11. Could you define the meaning of critical thinking in the EFL context?	+1	+1	0	0.67	accept
	1.12. How do you think the role of critical thinking skills in the EFL context?	+1	+1	0	0.67	accept
	1.13. How do you think the critical thinking skills integrated into the EFL reading?	+1	+1	0	0.67	accept
	1.14. Have you ever received any formal training for critical thinking?	+1	+1	0	0.67	accept
3. To find out the current practices of the participating teachers	3.1. How much do you feel confident about the reading materials of the existing EFL textbooks' provision of critical thinking skills for your students?	+1	+1	+1	1.0	accept

	3.2. Have you ever adapted the reading materials in existing EFL textbooks to develop your students' critical thinking skills? How?	+1	+1	+1	1.0	accept
	3.3. How much amount of time a week do you normally have for the reading lessons?	+1	+1	+1	1.0	accept
	3.4. What activities, tasks, and exercises do you incorporate into the existing EFL textbooks?	+1	+1	+1	1.0	accept
	3.5. What challenges do you face in incorporating those activities, tasks, and exercises to develop the critical thinking skills of your students	+1	+1	+1	1.0	accept
3. To find out the participating teachers' principles for the reading materials	3.1. What language features do you think we should include in our reading materials? Vocabulary or grammar?	+1	+1	+1	1.0	accept
	3.2. How can we make sure that the materials include language items in daily communications?	+1	+1	+1	1.0	accept
4. To find out the participating teachers' insights on content and sequencing of the reading materials	4.1. How many units should we include in our reading materials?	+1	+1	+1	1.0	accept
	4.2. What types of content should we include in our reading materials for critical thinking skills development?	+1	+1	0	0.67	accept
	4.3. What topics or themes do you think are the most relevant and engaging for Myanmar's upper secondary students?	+1	+1	0	0.67	accept
	4.4. What kinds of reading texts should we include? Should we include texts from international sources, local contexts, or both? Why?	+1	+1	0	0.67	accept

	4.5. What level of difficulty in reading texts do you think is the most appropriate for EFL upper-secondary students? Why do you think so?	+1	+1	0	0.67	accept
	4.6. What kinds of reading texts do you think your students find engaging in?	+1	+1	0	0.67	accept
	4.7. What level of difficulty in reading texts do you think is the most appropriate for your students? Why do you think so?	+1	0	+1	0.67	accept
	4.8. How should we sequence the tasks? Should easier tasks come before more complex ones? Why or why not?	+1	+1	0	0.67	accept
5. To find out the participating teachers' insights on format and presentation of the reading materials	5.1. What visual features (e.g., illustrations, charts, graphic organizers) do you think would make reading materials more effective?	+1	+1	0	0.67	accept
	5.2. Do you think students prefer open-ended tasks (e.g., discussions) or tasks with clear answers (e.g., multiple-choice)? Why?	+1	+1	0	0.67	accept
	5.3. Are there any cultural considerations that we should avoid to ensure the materials are respectful and inclusive?	+1	+1	0	0.67	accept
	5.4. What practical features should the materials have to ensure they can be used easily in Myanmar's classrooms (e.g., format, size, durability)?	+1	+1	0	0.67	accept
	5.5. How much amount of time do you think we should provide each reading lesson?	0	+1	+1	0.67	accept
	5.6. What activities will we get our learners to do in our reading materials?	0	+1	+1	0.67	accept

	5.7. What kinds of activities do we include? Individual or in pairs or groups? Why?	0	+1	+1	0.67	accept
	5.8. Will we pre-teach these items before the learners meet them in the reading passage or not? Why?	0	+1	+1	0.67	accept
	5.9. Will we have a pre-reading discussion or get our learners to discuss the text after the reading?	0	+1	+1	0.67	accept
	5.10. What shall we do to have a good balance of activities in each lesson?	0	+1	+1	0.67	accept



APPENDIX F

THE EXPERTS' EVALUATION OF THE SEMI-STRUCTURED INTERVIEW QUESTIONS FOR THE INVESTIGATION OF AFFORANDANCES AND CHALLENGES OF IMPLEMENTING THE READING MATERIALS REPORTED BY FOCAL TEACHERS

Objectives	Content	Experts			$\bar{x}$	Interpretation
		1	2	3		
To find out the general experience of using the reading materials	1. What is your teaching experience with using the reading materials for critical thinking development?	0	+1	+1	0.67	accept
To find out the opportunity to use the reading materials	2. What elements of the reading materials worked well for you?	+1	+1	+1	1.00	accept
To find out the challenge of using the reading materials	3. What elements of the reading materials did not work for you?	+1	+1	+1	1.00	accept
To find out the opportunity to use the reading materials	4. What elements of the reading materials did you enjoy most? Why?	+1	+1	+1	1.00	accept
To find out the challenge of using the reading materials	5. What elements of the reading materials did you enjoy least? Why?	+1	+1	0	0.67	accept
To find out the challenge of using the reading materials	6. What problems did you encounter in delivering the materials?	+1	+1	+1	1.00	accept
To find out the opportunity to use the reading materials	7. What elements of the reading materials did your students enjoy?	+1	+1	+1	1.00	accept

To find out the challenge of using the reading materials	8. What elements of the reading materials did your students find difficult?	+1	+1	+1	1.00	accept
To find out the challenge of using the reading materials	9. How did you manage to solve their difficulties?	+1	+1	+1	1.00	accept
To find out the opportunity to use the reading materials	10. Did you find any enjoyment in the implementation of the material? What are they?	+1	+1	0	0.67	accept
To find out the challenge of using the reading materials	11. Did you face any challenges in the implementation of the material? What are they?	+1	+1	0	0.67	accept
To find out the general suggestions for the improvement of the reading materials	12. What kinds of resources do you think you need for the effectiveness of the material?	+1	+1	0	0.67	accept
	13. What suggestions do you have for the betterment and effectiveness of the material?	+1	+1	+1	1.00	accept

APPENDIX G

THE EXPERTS' EVALUATION OF ITEMS IN THE CLASSROOM OBSERVATION FORM

Objectives	Content	Experts			$\bar{x}$	Interpretation
		1	2	3		
To study the classroom environment	1. The classroom and the sitting plan are suitable for group activities or pair works	+1	+1	+1	1.0	accept
	2. The developed reading materials are used in the classroom.	0	+1	+1	0.67	accept
To study the teacher's practices	3. The teacher introduces the lesson using a brainstorming lead-in to encourage thinking practices.	0	+1	+1	0.67	accept
	4. The teacher follows the sequence of the lesson very well as prescribed in the reading materials.	+1	+1	+1	1.0	accept
	5. The teacher uses open-ended questions frequently to create more opportunities to think.	0	+1	+1	0.67	accept
	6. The teacher gives clear instructions for the activities to the students.	0	+1	+1	0.67	accept
	7. The teacher encourages students to analyze, evaluate, and infer.	0	+1	+1	0.67	accept
	8. The teacher is ready to solve difficulties encountered during the lesson.	0	+1	+1	0.67	accept
To study the engagement of students	9. Students show enthusiasm towards the developed reading materials.	+1	+1	+1	1.0	accept
	10. Students engage in almost every activity of the lesson.	0	+1	+1	0.67	accept

	11. Students share their thoughts during the lesson.	0	+1	+1	0.67	accept
	12. Students work effectively in group works or pair works.	0	+1	+1	0.67	accept
	13. Students actively engage in activities that demand critical thinking skills.	0	+1	+1	0.67	accept



APPENDIX H

A GENERAL COMPOSITION OF TOPICS AND UNITS IN THREE EFL COURSEBOOKS

Units	Topics of Units in three selected English coursebooks		
	Grade X	Grade XI	Grade XII
1	Language	The Ayeyarwady Dolphins	Good Manners
2	Literature	Online Shopping: Pros and Cons	Key to Happiness
3	Zero	Memory	Diet and Nutrition
4	Paintings	Globalization of Foods	Emotional Well-Being
5	Trains	Travel in Southeast Asia I	Colours
6	The Prodigal Son	Travel in Southeast Asia II	Artificial Intelligence
7	Typical Myanmar Snacks	Systems and Organs of the Human Body	Pollution: A Hazard To Our Environment
8	Food Chain	The Last Leaf	Renewable Energy
9	Climate Change	Stress, and How to Beat It	Helen Keller
10	Food Safety	Sleep Deprivation	Why improve communication skills?
11	Thanaka, Uniquely Myanmar	Dreams	A Day's Wait
12	Urbanization	Natural Disasters	Intercultural Communication

APPENDIX I

TYPES OF READING TEXTS AND READING COMPREHENSION QUESTIONS IN GRADE X FALL INTO DIFFERENT THINKING SKILLS

Location		Types of Questions		Questions Demanding Thinking Skills	
Grade X	Unit	Literary	Non- literary	Lower-order Thinking Skills (LOTS)	Higher-order Thinking Skills (HOTS)
	1		√	62.5%	37.5%
	2		√	58.33%	41.66%
	3		√	75%	25%
	4		√	77.77%	33.33%
	5		√	60%	40%
	6	√		80%	20%
	7		√	70%	30%
	8		√	100%	0%
	9		√	77.77%	33.33%
	10		√	77.77%	33.33%
	11		√	50%	50%
	12		√	45.45%	54.54%
Total		8.33%	91.66%	69.53%	30.48%

APPENDIX J

TYPES OF READING TEXTS AND READING COMPREHENSION QUESTIONS IN GRADE XI FALL INTO DIFFERENT THINKING SKILLS

Location		Types of Questions		Questions Demanding Thinking Skills	
Grade XI	Unit	Literary	Non- literary	Lower-order Thinking Skills (LOTS)	Higher-order Thinking Skills (HOTS)
	1		√	60%	40%
	2		√	70%	30%
	3		√	80%	20%
	4		√	40%	60%
	5		√	80%	20%
	6		√	55.54%	45.45%
	7		√	60%	40%
	8	√		33.33%	66.66%
	9		√	66.66%	33.33%
	10		√	87.5%	12.5%
	11		√	36.36%	63.63%
	12		√	44.44%	55.55%
Total		8.33%	91.66%	57.72%	42.27%

APPENDIX K

TYPES OF READING TEXTS AND READING COMPREHENSION QUESTIONS IN GRADE XII FALL INTO DIFFERENT THINKING SKILLS

Location		Types of Questions		Questions Demanding Thinking Skills	
Grade VII	Unit	Literary	Non-literary	Lower-order Thinking Skills (LOTS)	Higher-order Thinking Skills (HOTS)
	1		√	50%	50%
	2		√	10%	90%
	3		√	50%	50%
	4		√	50%	50%
	5		√	77.77%	22.22%
	6		√	64.28%	35.71%
	7		√	50%	50%
	8		√	60%	40%
	9		√	66.66%	33.33%
	10		√	83.33%	16.66%
	11	√		90%	10%
	12		√	100%	0%
Total		8.33%	91.66%	60%	40%

APPENDIX L

REVISED MATERIALS

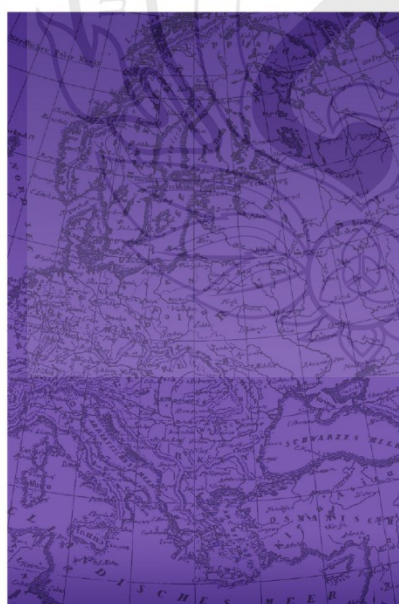
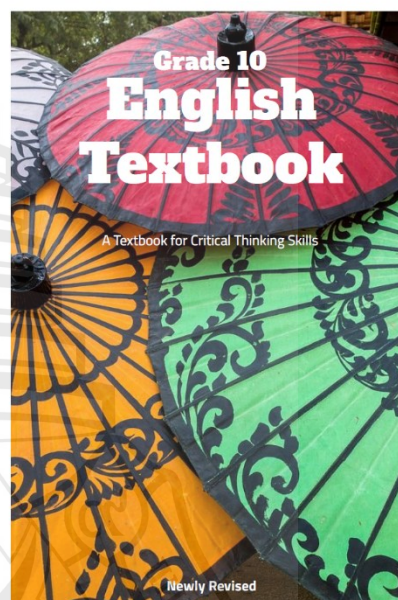


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Unit 1

Language

Language : A Gateway to the World

OLD WORLD LANGUAGE FAMILIES
States of the branches represent the historical spread of the language families.

The historic spread of

- Indo-European
- Uralic
- Altaic

The approximate sizes of

Pre-reading

1. What is language?
2. What do we use it for?
3. What does language do for us?
4. What would our life be like without language?

UNIT 1: Language

The question, "What is language?" can have several different answers, and all of them may be acceptable. For our present purpose, however, let us look at language as: skill, tool, form, and function.

First, language is a set of skills: listening, speaking, reading, and writing. They are 5 often known as the four language skills. Of these four skills, the listening skill is the first to develop. It develops during the first eighteen months of babyhood. The speaking skill develops at about the age of one and a half years or so. By about four or five years of age, the child is able to use his or her mother tongue quite efficiently. It is only when the child goes to school that he or she learns to read and write.

Here, we should note that listening and speaking work together as a pair of skills, while reading and writing work together as another pair. We should note further that when we are listening or reading, we are not producing language; we are receiving language. That is why these two skills are often known as receptive skills. When we are speaking or writing, however, we are producing language. Thus, speaking and writing are often known as productive skills.

Second, language is a tool for communication. This means that we use language to speak to someone, or to write to someone. To speak, we use vocal symbols; to write, we use written symbols. What is interesting here is that when we speak, we use gestures such as the movement of our arms, hands, heads, and also facial expressions to help the listener understand us better. When we write, however, we use 25 graphics such as pictures, photographs, charts, tables, etc. to help the reader understand us better. Thus, we may say that speaking and gestures go hand in hand, just as writing and graphics do.



Third, communication may be in one of two forms: verbal communication, and non-verbal communication. In verbal communication, we use words and sentences. They may be spoken or written. In non-verbal communication, on the other hand, we use gestures and graphics.

Fourth, we use language to help us perform many social functions, which are very much part of our day-to-day life.

This means that we use language:
to greet or to bid farewell (such as: Hello! Bye-bye! See you later, etc.)
to pass on information (such as: The film last evening was very exciting. I believe Dick failed the exam, etc.)
to ask someone a question or two (such as: How are you? Have you done your homework etc.)
to request (such as: Could you please give me a hand? Pass me the salt, please, etc.)
to ask for permission (such as: May I come in? Could I borrow your bike for the morning? etc.)
to instruct someone what to do or how to do something (such as: Take one tablet three times a day. Add a teaspoon of sugar and stir, etc.)
to direct someone how to get to a certain place (such as: Go down this road. Turn left at the traffic lights. The second building on your left is the museum, etc.)
to thank or express gratitude (such as: Thanks a lot. How very kind of you. Thank you so much, etc.)
to respond to words of thanks and gratitude (such as: The pleasure's mine. Please do mention it. You're most welcome, etc.)
to apologize or express regret (such as: I'm sorry. What a pity! I'm sorry to hear. Oh, what a shame! etc.)
to agree or disagree (such as: Yes, that's right. Of course. Sorry, I can't accept that.
I'm afraid you're quite wrong there, etc.)
and to perform many, many other functions.
In addition, language reflects culture, preserves culture, passes on culture from one generation to the next, preserves nationality, and also identifies social class.

A. Pre-teaching Vocabulary

I. Read the text and match the words in column A to their appropriate meaning in column B.

Column A Words	Column B Meaning
1. Skill	a. a movement of the hands, arms, or head,
2. Tool	b. the general customs and beliefs of a particular group of people
3. Gesture	c. a picture or diagram that gives information
4. Graphic	d. Related to receiving
5. Receptive	e. Written rather than spoken
6. Productive	f. a piece of equipment
7. Verbal	g. the way in which something works or operates
8. Non-verbal	h. spoken rather than written
9. Function	i. an ability to do an activity or job well
10. Culture	j. Related to producing

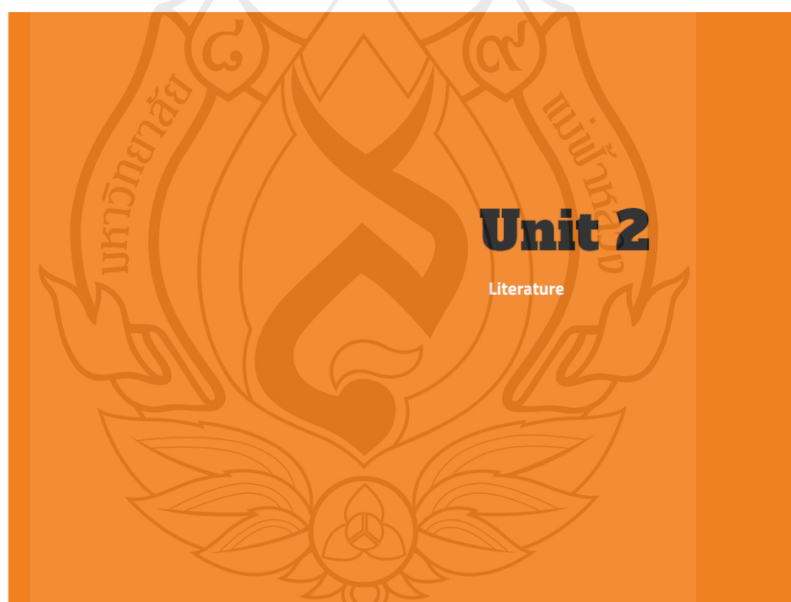
II. Complete the sentences with the words in Exercise A.

- We use _____, such as the movement of our arms, hands, and heads to help the listener understand us better.
- _____ is preserved and reflected by language.
- Speaking and writing are _____ skills.
- Smiles, facial expressions, and gestures are _____ communication.
- Reading and listening are _____ skills.
- Language helps us perform many social _____.
- Language is a _____ that we need to learn.
- We use language as a _____ to speak to someone or to write to someone.
- By using _____ such as pictures, charts, tables, etc., we can help our readers understand our writing better.

B. Reading Questions

Answer the following questions

1. According to the passage, there are four skills of language. What are these four skills?
2. What are the productive skills of a language?
3. What are the receptive skills of a language?
4. Listening and writing work together as a pair of skills. Do you agree with this pairing? Why or why not?
5. Why is it said that language is a tool of communication?
6. What do you use in speaking? Why?
7. What do you use in writing? Why?
8. If you have a misunderstanding with someone, what is the cause of the problem – language, gestures, or both? Why do you think so?
9. Language is used to help us perform many social functions. Provide your personal experiences to support the statement.
10. The text provides you a list of many social functions performed by language, which do you use most often in your life and why?



Literature

The English word "literature" comes from the Latin word "litteratura," which means writing. Thus, we may assume that there was no literature until people could write. However, we cannot say that every piece of writing is literature. For instance, no one would call a "Recipe for Coconut Rice" literature. Neither could one call the "Directions" on a bottle of medicine literature.

To put it simply, for a piece of writing to be recognized as literature, it must have a lasting effect on the reader in such a way that the reader would want to read on and on, and again and again, too. A writer of a piece of literature may be compared to a painter. A painter chooses and uses colours carefully to get a beautiful painting. Similarly, a writer of a piece of literature chooses and uses his words carefully to turn out a piece of writing that will make his reader wish to read on and on, and even again and again.

Another important point to note is that every literate nation has literature of its own. Literature as a field of study is made up of three subjects: Prose, Poetry, and Drama.

Prose: This is a kind of free, straightforward writing. There are no restrictions on the number of words or syllables as there are in poetry. Thus, letters, essays, articles, biographies, short stories, and novels are all pieces of prose. *Wuthering Heights* by Emily Brontë, *Pride and Prejudice* by Jane Austen, and *For Whom the Bell Tolls* by Ernest Hemingway are well-known novels. They are all pieces of prose.

Poetry: Poetry is sometimes defined as "literature in verse." Depending on the type of poem, the poet has to follow certain rules such as the number of syllables to a line, the number of lines to a stanza, the pattern of rhyme and rhythm to maintain, etc. For instance, a sonnet is a poem that has fourteen lines and a particular pattern of rhyme. A limerick, on the other hand, is a humorous poem with five lines and its own rhyming scheme. A lyrical poem, another variety, expresses the poet's thoughts and feelings about something such as love, beauty, death, etc. For instance, *Daffodils* by William Wordsworth, *Song* by Christina Rossetti, and *The Light of Other Days* by Thomas Moore are famous lyrical poems.

Drama: Sometimes, some writers write stories in the form of a play which is to be performed on a stage of a theatre, or presented as a radio or television programme. Such plays are known as 30 dramas. There are three kinds of drama: Comedy, Tragedy, and Tragicomedy.



A comedy is a play that is amusing, and it makes people laugh. In such a play, the characters may be amusing, or the events may be amusing, or both may be amusing. As *You Like It* and *A Midsummer Night's Dream* are well-known comedies written by William Shakespeare.

A tragedy is a play that has a very sad ending. Such a play usually tells about the *Macbeth* and *Julius Caesar* are famous tragedies of English literature. So is *Romeo and Juliet*.

A tragicomedy is a type of play that is both sad and amusing. The *Winter's Tale* and *The Tempest* are well-known Shakespearean tragicomedies.

When a novel or a poem, or a play is of the highest quality, it becomes a

classic. Thus, classics in literature are novels, poems, and plays that are of top quality. They are pleasurable to read at any time. And they have enduring cultural value.

As a literate nation, ours is a literate culture, and hence, we too have our own literature. Surely, you must have come across such Myanmar terms as: yatou (ယတူ), yagan (ယဂံ), pyou (ပျှော်), aye-gyin (အိပ်ဂျိန်), aing-gyin (အိပ်ဂျိန်), lay-hsit (လှိုင်ဆိတ်), tay-dut (တေသုတ်), baw lai (ဘဝလှိုင်), etc., all of which are various kinds of poems of Myanmar literature. And of course, we have our prose and drama, too. You might even happen to know or have heard of some prominent figures in Myanmar literature of the past.

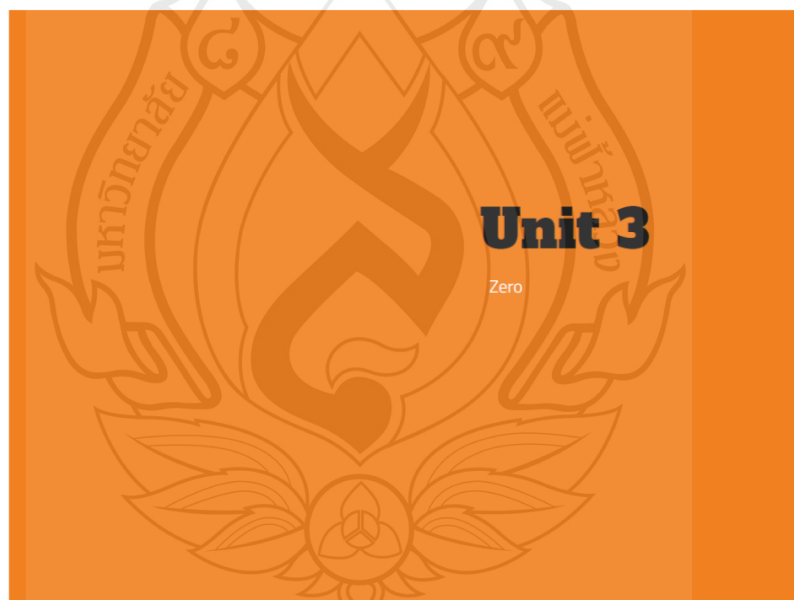
A. Pre-teaching Vocabulary

I. Read the text and match the words in column A to their appropriate meaning in column B.

Types of Literature	The meaning
1. Prose	a. a play that has a very sad ending
2. Poetry	b. a type of play that is both sad and amusing
3. Drama	c. a poem having fourteen lines and a particular pattern of rhyme
4. Sonnet	d. a kind of free, straightforward writing
5. Limerick	e. literature in verse
6. Comedy	f. stories in the form of a play which is to be performed on a stage of a theatre, or presented as a radio or television programme
7. Tragedy	g. a humorous poem with five lines and its rhyming scheme
8. Tragicomedy	h. a play that is amusing

II. Complete the sentences with the words in Exercise A.

- Can a news article be regarded as literature? Why?
- When can a piece of writing be recognized as literature?
- Why cannot a recipe of coconut rice be recognized as a literary work? Write the reason in your own words
- Is there any difference between a writer and a painter? What is the difference?
- Clarify the differences between the three main types of literature.
- Compare and contrast the prose and poetry in terms of their structure and forms.
- Do you agree with the statement "we have our prose and drama"? Why or why not?
- Evaluate the similarities and differences between Myanmar literature and English literature.
- Explain the meaning of literature in a simple word to someone who is not familiar with that word.





Pre-Reading

1. Where do you find zero?
2. How useful is zero in our life?
3. What do you think life would be like today without zero?

To write an English word, short or long, we use the 26 letters (A to Z) of the English alphabet as required. To write a number, small or big, we use the Arabic numerals: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 as required. The first of those is "0" (zero). The word "zero" means "nothing", yet it is essential in counting and calculation. Firstly, because we have "0", we do not need a special numeral for "ten". We just write "10". For "one hundred", we just add one more zero and write "100". For "one thousand", we add another zero and write "1,000". Thus, in a sense, "0" means "10 times of a number". After all, "10" means 1 ten times; "20" means 2 ten times; "100" means 10 ten times; and "1,000" means 100 ten times, and so on.

Now, let's try using Roman numerals. You will soon see that the task would no longer be as straightforward. The Roman numerals, as we know, are: I, V, X, L, C, D, and M, and respectively they stand for 1, 5, 10, 50, 100, 500, and 1,000. There is no "0" at all. Thus, 10 is X; 20 is XX; 30 is XXX; 40 is XXXX or XL (meaning 10 less than 50). For a simple mathematical equation like: $100 + 27 = 127$ you will have to write: $C + XXVII = CXXVII$. Not simple at all. The larger the number, the greater the trouble. This illustration should be plain enough to help you see how important zero is.

Another point to note is that in the real number system, not an imaginary number, "0" is the only number that is neither positive nor negative. Therefore, "0" represents the boundary between the negative and positive numbers.

This can be seen on the coordinate axes (mathematics) and on many scales. For example, on a thermometer to measure the 20 temperature of the air, any point above 0°C freezing point is positive, while any point below 0°C freezing point is negative, and this is shown with the minus sign before the number as in -5°C or -20°C as the case may be.

You may already know that "0" is also used in declaring the scores of a game. For example, at the beginning of a game, say badminton, the umpire calls out: zero-zero. This means that 25 neither of the players has scored a point. Then, as the game proceeds, we hear the umpire calling out: zero-1; 1-1; 3-2; or 6-8 as the case may be. In tennis, though, we hear "love" instead of "zero". Actually, it is not the English word "love". It is French for "egg". The French use the word "egg" to mean "zero".

Nobody knows for certain who discovered zero. Nobody knows for certain either when or 30 where it was discovered. However, the general belief is that it was the Hindu mathematicians of India who discovered zero, sometime in the sixth century or so. The Hindu word for it was "śūnya", meaning "empty", or "void". It is also believed that the Arabs borrowed it from the Hindus, and called it "sifr", which became the root word for the English words "cipher" and "zero".

Answer the following questions.

1. What is the main idea of the reading text?
2. What numerals are mentioned in the passage?
What are they?
3. Why is it more difficult to calculate in mathematics using Roman Numerals rather than Arabic Numerals? Support your statement with examples from the text.
4. Does the given text have real-life situations to support the importance of zero? What are they?
5. According to the text, zero is one of the important inventions in mathematics. Do you agree with that statement? Why?
6. The text mentions that it is unknown who discovered zero. Does this fact affect the understanding of the zero? Why?
7. If you were to explain to someone about zero, how would you explain it simply?

Unit 4

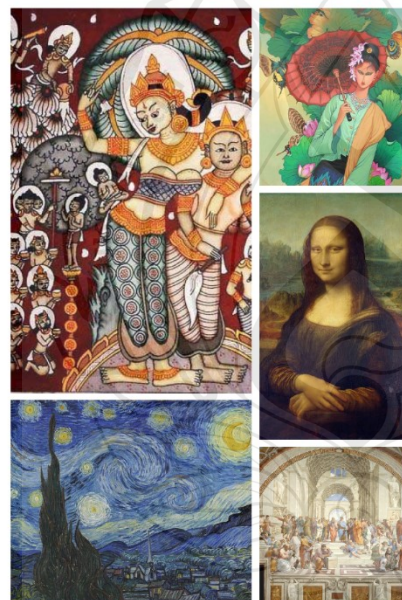
Paintings



Paintings: Colours for Pleasure

Pre-reading

1. Do you like drawing and painting?
2. Are you good at painting?
3. Do you think painting is an easy task? Why or why not?



Painting, the art of drawing in colours, is a very ancient skill. Paintings discovered deep in the caves of southern Europe are believed to have been done between 750,000 and 150,000 years ago. That period in human history is known as the Paleolithic 5 Age, or the early Stone Age. Those very early people of that time had learnt to use tools and weapons made only of stone. Generally speaking, there are five common kinds of painting. They are: watercolour painting, oil painting, tempera painting, mural painting, and fresco painting. Watercolour painting is done on paper, using colours made from pigments mixed with water only. Oil painting is done on canvas, using oil colours. Tempera painting is usually done on dry walls, using colours made from pigments mixed with water, egg yolk, and glue. Mural painting and fresco painting are both paintings on walls. However, mural painting is done by brushing water colour onto

the dry plaster of a wall, while fresco painting is done by rapidly brushing water colour onto the wet plaster of a wall. Most painters paint just for the pleasure of painting, while some do it for a living. Some artists paint to capture the beauty of a sunset or of the countryside, while others like to do portraits. Frescos and murals portray religious, historic, or patriotic themes. Paintings that we see on the structures around pagodas are mostly murals, and they depict the many significant events in the life of the Lord Buddha. Among the many styles of painting, abstract expressionism and cubism are interesting because they do not follow the conventional style of painting. Abstract expressionism originated in New York in the 1940s. Simply put, it is a kind of painting without recognizable images. It does not keep the limits of conventional form.

Cubism is a modern art in painting. It was invented by the Spanish artist Pablo Picasso. Cubism uses geometric shapes and forms that may overlap and penetrate one another. In most of these two styles of painting, it is not always easy to see what message the artist is trying to convey.

In addition to the five common kinds of painting, there is another kind known as graffiti art. It is writings or drawings made on a wall or any other surface, usually as a form of artistic expression within public view, without permission. Graffiti art can be observed all over the world today on buildings, posts and phone boxes, underground tunnels, buses, and on subway cars.

The debate over whether graffiti is art or harm is still going on. In some countries, writing or painting on walls is a crime. In other countries, artists can draw and paint in 40 places. For example, in Taiwan, there are 'graffiti zones' where artists can paint on walls. Some say that it is an essential thing for a city. They say that a modern city's beauty can't be perfect without graffiti.

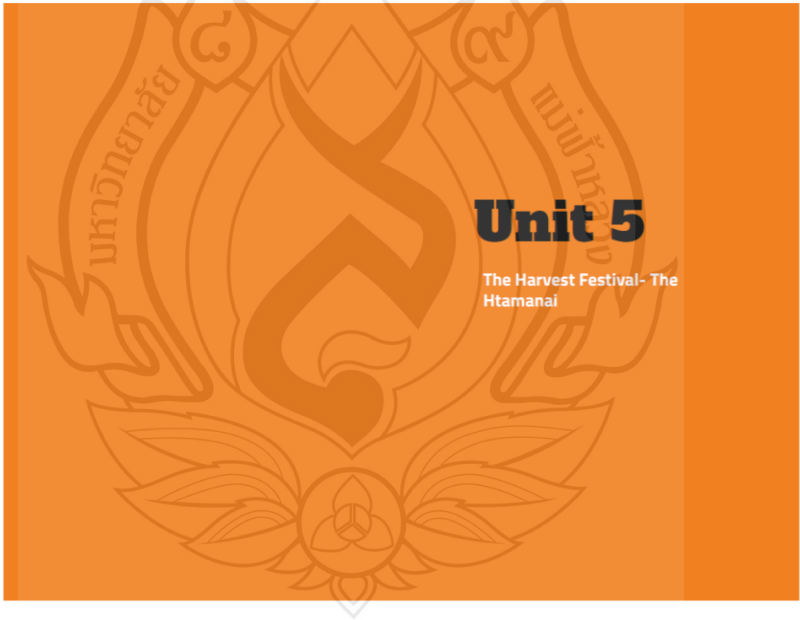
After Reading

A. Complete the following table, using information from the passage. The first one is done as an example.

Type of Painting	Paintings are done on	Types of Paints/ Colours used
1. Watercolour painting		
2. Oil painting		
3. Tempera Painting		
4. Mural Painting		
5. Fresco Painting		

B. Answer the following questions.

1. What were the first paintings discovered?
2. How many types of paintings are mentioned in the text? List them.
3. What is the difference between watercolour painting and oil painting?
4. Are there any similarities and differences between mural painting and fresco painting? Discuss.
5. What kind of painting can you find when you visit the ancient temples and pagodas?
6. What makes cubism different from the traditional style of painting?
7. Do you like paintings that capture the beauty of nature or portraits? Why?
8. Should graffiti artists be allowed to write or draw on walls or surfaces within public view? Why or why not?
9. Do you agree or disagree with the statement "the modern city's beauty can't be perfect without graffiti"? Why or why not?
10. How would you rewrite the history of paintings in your own words?



The Harvest Festival: The Htamanai

Come Tabodwe (February), the eleventh month of the Myanmar calendar, we have the harvest festival and the making of htamanai, a concoction of glutinous rice, coconut slices, sesamum seeds, peanuts, and a generous amount of cooking oil.

In Myanmar, there is a tradition to observe a custom which is called "top priority for those to whom respect is due". In small towns and villages, rice is still cooked in a thin earthen pot with a humped lid, so the cooked rice has a peaked shape at the top. This crown of rice is reserved for the shrine and monks. If a Myanmar comes across a rare delicacy, he would set aside a portion for 'top priorities'. The rarer the thing, the more care he would take to do so.

Among the agrarian people in the country, it is the custom to set aside the first and choicest products of the farms for alms-giving. Hence, the tradition of making htamanai, which includes most of the fruits of the farms and orchards.

Htamanai feast is either celebrated communally or done just in the private circle of family and friends. The nature of the feast is such that, in whatever way the feast is celebrated, it means a big gathering because many hands are needed. In a communal feast, people come around with contributions of glutinous rice and other ingredients. It is an option, though; one can just give his service if not anything else.



Girls shell the peanuts; the seeds are put on a flat tray, and a fair-sized bottle is rolled over them to remove the thin husk. Meanwhile, a great concave iron pot is put over the fireplace, a pit dug for the purpose. Cooking oil is sizzling, and shredded ginger is the first to go in, and then the glutinous rice, which has been soaked in water.

A large cauldron of water is kept ready to be added to the glutinous rice cooking in the pot. When the rice is soft enough, the pot is removed from the fire, and two stalwart men, each with a huge wooden ladle, begin to stir the rice, crushing it between the ladles. Even as they stir and crush, the glutinous rice gets stickier, and they have to use not only their strength but their skill to make the coagulated mass yield to their ladies.

After some time of vigorous stirring and crushing, people come round to add sliced coconuts and peanuts to make the whole thing a good mixture. Sesamum seeds are added last. This last does not call for strength, but it needs skill, so they say. While the men are pitting their strength to stir and mix the glutinous rice, coconuts, and peanuts, the one who spreads sesame seeds' sits by, sprinkling the seeds by handfuls at regular intervals. The blend and the flavour of htamanai depend on the sesame seed sprinkling, it is said. 'Sprinkling sesame seeds' is a Myanmar idiom, not meant, I am afraid, to describe some commendable work, but to disparage something done by someone, only after others have already done the dirty work. Come to think of it, I am perhaps doing the same thing. Whatever participation I have in the festival is my appreciation of htamanai and the propagation of the creed. I am sprinkling sesame seeds, figuratively, by writing this article. This goes to show that the pen is mightier than the giant ladles that stir the htamanai pots.

A. Read the text and match the words in column A to their appropriate meaning in column B.

Words	Meanings
1. alms-giving	a. the ability to perform a difficult action quickly and skillfully with the hands
2. concoction	b. Very hot
3. whitening	c. to change from a liquid to a more solid state
4. stir and crush	d. Religious offering or donation, particularly to monks
5. stalwart	e. A mixture of different ingredients
6. voracity	f. To mix and break down with force
7. dexterity	g. very forceful or energetic
8. coagulate	h. to blow the outer coverings from grain before it can be used as food
9. vigorous	i. The quality of being extremely skilled at something
10. sizzling	j. loyal, especially for a long time; able to be trusted

B. Answer the following questions.

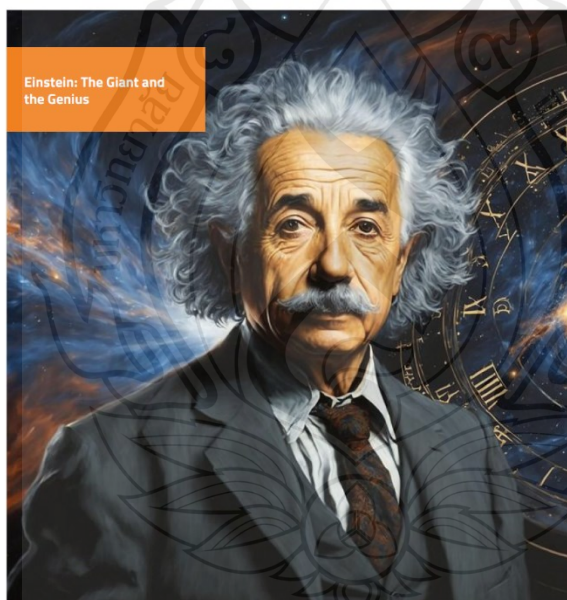
1. What ingredients are required to make Htamanai?
2. According to the Myanmar Calendar, when do Myanmar people celebrate the festival of harvest?
3. Explain why Myanmar people living in small towns and villages reserve the crown of rice for the shrine and monks.
4. What is the role of girls in making Htamanai?
5. Imagine you were at a Htamanai festival, which role would you like to take? Why?
6. Compare and contrast the role of man and woman in making Htamanai?
7. The phrase "Sprinkling sesame seeds" has both literal meaning and idiomatic meaning. Analyze the difference between these two meanings.
8. Do you agree or disagree with the custom of setting aside the first and choicest products of the farms for alms-giving in modern society? Explain your reason.
9. What is your judgment on the author's statement "the pen is mightier than the giant ladles that stir the htamanai pots"?
10. You were assigned to organize a Htamanai festival. Propose your plan to successfully preserve both the flavors of the Htamanai and the tradition of Myanmar.



Unit 6

Little-known facts about the
Well-known Einstein

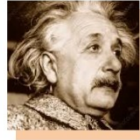
Einstein: The Giant and
the Genius



Pre-reading

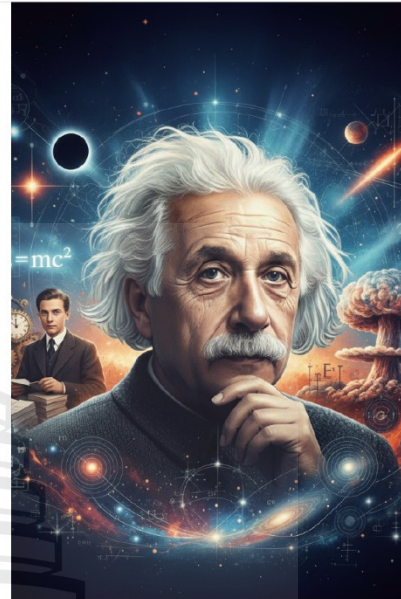
Tick the following if you
know about Albert Einstein.

- I have heard the name Albert Einstein.
- Albert Einstein was born in Germany.
- Albert Einstein was famous for his Theory of Relativity



Albert Einstein

I was walking down the streets of a little town in Southern Germany some years ago when a friend who was with me suddenly stopped and pointed to a window over a grocery shop and said: "See that little apartment up there? That is where Einstein was born."



Read the text.

Later that day, I met Einstein's uncle and talked to him. But he didn't impress me as being a man of any unusual ability. But that isn't strange, for when Albert Einstein himself was a child, no one thought he would amount to much either. He is now regarded as the outstanding intellectual giant of his generation, one of the most profound thinkers of all time; yet sixty years ago he was a slow, shy, backward child. He found it extremely difficult to learn even to talk. He was so dull that his own teachers called him a bore, and even his parents feared that he was subnormal.

Einstein himself was astonished to find himself one of the most famous men in the world. It seemed absolutely incredible that a professor of mathematics had become front-page news on five continents. He was almost as strange as his Theory of Relativity. He has had nothing but contempt for the things most people set their hearts on- for fame and riches and luxury. For example, the captain of a transatlantic ship once offered Einstein the most expensive suite of rooms on the vessel, but Einstein declined and said he would rather travel in the steerage than accept any special favours.

When Einstein reached his fiftieth birthday, Germany overwhelmed him with honours, erected a bust of him at Potsdam, and offered him a home and a sailing boat as a token of the nation's love and undying admiration.

But a few years later, his property was taken away from him, and he was afraid to return to his native land.

For weeks, he lived in Belgium behind barred doors, and a policeman slept at his bedside every night. When he arrived in New York to become Professor of Mathematics in the Institute for Advanced Study at Princeton, he was anxious to avoid reporters and interviews and excitement; so his friends took him off the ship secretly before it docked and hurried him away by motorcar.

Einstein said that there were only twelve people living who understood his Theory of Relativity, although more than nine hundred books have been written attempting to explain it.

He himself explains Relativity by this very simple illustration: When you sit with a nice girl for an hour, you think it is only a minute; but when you sit on a hot stove for a minute, you think it is an hour. Well, well so that's relativity. It sounds all right to me; but if you doubt it and would like to try it out, I'll be glad to sit with the girl if you'll sit on the stove.

And speaking of girls, Einstein was married twice. He had two sons by his first marriage, both brilliant chaps with the signs of genius.

Mrs. Einstein admitted that even she didn't understand the Theory of Relativity, but she understood something that is far more important for a wife: she understood her husband.

She used to invite her friends in for tea occasionally, and then she would ask the Professor to come downstairs and join them. "No!" he would exclaim violently. "No! I won't! I won't! I'm going away from here. I can't work here. I simply won't stand these interruptions any longer."

Frau Einstein would keep perfectly quiet until he had blown off steam for a while, and then, presently, by using a little diplomacy, she would have him downstairs drinking tea and getting some much-needed relaxation.

Frau Einstein said that her husband liked order in his thinking, but he didn't like it in his living. He did whatever he wanted to, whenever he wanted to. And he had only two rules of conduct. The first was: Don't have any rules whatever. And the second was: Be independent of the opinion of others.

He led a very simple sort of existence, went around in old clothes that needed pressing, seldom wore a hat, and whistled and sang in the bathroom. He shaved while sitting in the bathtub, and he didn't use shaving soap. He shaved with the same soap that he used for his bath. This man, who tried to solve the vexing riddles of the universe, said that using two kinds of soap made life entirely too complicated. Einstein impressed me as having been a very happy man. His philosophy of happiness means far more to me than does his Theory of Relativity. I think it is a splendid philosophy. He said he was happy because he didn't want anything from anybody. He didn't want money or titles or praise. He made his own happiness out of such simple things as his work and playing the violin, and sailing his boat.

Einstein's violin brought him more joy than anything else in life. He said he often thought in music and lived his daydreams in music.

Once, while riding on a tram-car in Berlin, he told the conductor that he hadn't given him the right change. The conductor counted the change again and found it to be correct, so he handed it back to Einstein, saying: "The trouble with you is, you don't know figures!"

(A) Write True or False to the following statements.

1. The writer was walking down the streets of a little town in Northern Germany.
2. The writer got a chance to meet with the uncle of Einstein.
3. Einstein went to Washington, D.C., to become Professor of Mathematics in the Institute for Advanced Study at Princeton.
4. Einstein was married once.
5. The violin was the joy for Einstein.

(B) Answer the following questions.

1. In which country was Albert Einstein born?
2. Explain the school days of Albert Einstein with an example from the text.
3. How did Albert Einstein react to the special treatment of him?
4. What example did Albert Einstein give to explain his relativity theory, and what ability of Albert Einstein can be found in his example?
5. If you were given a special treatment similar to the one given to Albert Einstein, how would you react to it?

Unit 7

The Happy Prince by Oscar Wilde



Pre-reading

1. Do you like reading short stories?
2. What stories have you read?
3. Who is your best friend?

The Happy Prince

Once upon a time, a beautiful statue stood in the middle of a town square. It was the statue of a prince. His body was covered in shiny gold leaf, and his eyes and the sword on his belt were ornamented with precious gemstones. From his place on the square, he could see everything going on around him. People called him the Happy Prince.

One cold and windy night, a swallow wandered into the square. The other swallows had all gone south for the winter, but this one had gotten lost and was left behind. Circling the square, the swallow saw the statue of the Happy Prince.

"It's too cold to fly tonight. I will stay here for the night. It's so cold."

As the swallow settled down, a drop of water fell on his head.

"Oo, that's cold! Can it be raining?"

The swallow glanced up, and saw that the sky was clear. It wasn't raining at all.

"How odd. Where did that drop of water come from, then?"

Curious, the swallow flew to the top of the statue. When he reached the top, he saw that the Prince's eyes were filled with tears.

"Why are you crying, Prince?"

"I am crying because I am sad."

"Why? How could you be sad?"

"I was once a happy Prince, and all my days were filled with joy. Now, when I am a statue, I can look over the whole town. I see so much misery and poverty."



The Happy Prince and A Swallow

Swallow, just take a look at that little house there."

"Where?"

The swallow looked at where the prince pointed. He saw an old, run-down house. A sick child lay on the bed inside.

"That child is very ill, but the family is too poor to buy the medicine she needs."

"Oh, how sad."

"Swallow, would you do something for me? Pluck out the ruby from my sword and bring it to that house. If they sell it, they will have enough money to buy the medicine."

"Of course, I will do as you ask."

As it said those words, the swallow fell to the ground and died.

"My poor, faithful Swallow! You didn't fly south, and you died because of me. Even my gold cannot save you. My poor, little swallow..."

Tears flowed from the prince's empty eyes and a cracking sound came from deep within his body.

The cold winter winds passed, and the warm sunshine of spring filled the air. The villagers emerged into the square to drink in the sunlight and saw what had become of the prince's state. They pointed their fingers at him, saying "Look at that! What has happened to the statue? It looks dreadful, more like a homeless prince, not a happy one. This statue is making the whole square look grubby. We've got to tear it down right away!"

The villagers tore down the statue and cast it into the fire to melt it down. Oddly, as the statue melted away in the heat, the prince's lead heart remained.

Looking down over the earth, God turned to one of his angels and said:

"Bring me the two most beautiful things in the world."

Yes, Lord.

The angel floated down to earth and brought back the frozen body of the swallow and the prince's lead heart.

"You have rightly chosen", God was very pleased.

The people do not understand what true happiness really is. The swallow and the prince will live eternally in Heaven. The Prince and the Swallow lived happily ever after in Heaven. But sometimes, they would look down upon the world and shed tears for the people below.

A. Match the words in column A to their appropriate meaning in column B.

Column A Words	Column B Meaning
1. Statue	a. the space or room at the top of a building, under the roof
2. Square	b. are in very bad condition
3. ornamented	c. a small bird with pointed wings and a tail with two points
4. strip	d. dirty
5. grubby	e. causing fear, shock, or suffering
6. eternally	f. to remove, pull, or tear the covering or outer layer from something
7. Swallow	g. forever
8. dreadful	h. to add decoration to something
9. run-down	i. an area of approximately square-shaped land in a city or a town, often including the buildings that surround it
10. attic	j. an object made from a hard material, especially stone or metal, to look like a person or animal

B. Read the story written above and write True or False to the following.

1. Once upon a time, a beautiful Prince statue stood in the middle of a town square.
2. The body of the prince was covered with silver.
3. The statue was known as a sad prince.
4. The little swallow got lost and was left behind.
5. The little swallow cried because he saw a sick child lying on the bed inside.
6. The little prince asked the swallow to give bits of gold on his body to some homeless children living under a bridge.
7. The Swallow cracked when it saw the death of the Happy Prince.
3. Read the story again and provide a short answer to the following questions.

C. Answer the following questions.

1. Who are the main characters in the story?
2. Why was the Happy Prince crying, even though he was known as the Happy Prince? What made him cry?
3. What would happen to the Happy Prince and the Villagers if the swallow went to the south for the winter?
4. Why did the villagers decide to tear down the statue of the Happy Prince? What can you see about the decision of the villagers?
5. What is the difference between the swallow and the villagers? Compare and contrast their different perspectives on seeing the Happy Prince and true happiness.
6. Would you support the decision of the Happy Prince to give away his gems and eyes to the poor if you were the swallow? Explain your reason.
7. Criticize the choice of the swallow to live with the Happy Prince, as the choice led to its death. Support your answer with reasons.
8. If you were one of the villagers, knowing you were helped by the Happy Prince, how would you stop other villagers from tearing down the Happy Prince Statue?
9. If you were to design a new statue to represent love, generosity and kindness, what materials would you use and how would you do it?
10. Rewrite the story describing your own statue idea. What would be the differences and what would you want to give the readers?

CURRICULUM VITAE

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EDUCATIONAL BACKGROUND

2022	Master of Arts English Literature and Language Yadanarbon University
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WORK EXPERIENCE

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