Academic Paper

Developing Critical Thinking of Thai Primary School Learners: Applications and Implications

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Abstract

Although the literature on Thai learners' critical thinking abounds, little emphasis is placed on such development in Thai primary school learners. Cultivating the thinking in this group of learners is essential. Not only does it lay the foundation for lifelong learning and decision-making required for their personal and academic growth, but it is also a tool for them to effectively deal with information technology given that these days young learners, particularly young children, are claimed to quickly access various information technologies at their fingertips, whether through mobile phones, laptops, or different types of technological devices. This conceptual paper offers literature-based recommendations and applications for fostering critical thinking among Thai primary learners. It also argues that developing such thinking in these learners is needed through explicit and embedded instruction, questioning techniques, creating real-world stimulations, realising subjectivities, modelling, avoiding labelling their arguments as right or wrong, ICT, self-reflection, positive reinforcements, and Buddhist doctrine integration. Importantly, this can be processed by taking into account Thai culture and Thai Buddhism, both of which are considered influential factors for such development. In this paper, in addition to the application for critical thinking development for these learners being discussed, implications deemed helpful for those concerned will also be proposed.

Keywords: Critical Thinking, Primary Learners, Thai Buddhism, Thai learners, Thailand's Education

1. Introduction

Critical thinking is claimed to be an essential skill that enables learners to analyse information, make informed decisions, and solve problems effectively. Its significance is obvious, particularly in this information age, where knowledge and information are abundant through technologies. Many scholars advocate for this notion, arguing that learners' media and information literacy should be cultivated in tandem with their critical thinking skills, enabling them to appropriately assess data and avoid misinformation in the digital age (e.g., Brookfield, 2015; Hobbs, 2017; Levitin, 2016).

Nevertheless, people in general are not critical by nature, and most of them are prone to flawed reasoning (Halpern, 1998). Since critical thinking can be taught and learned (Cole & Margit, 2012), many educators believe that students of all ages can develop this skill. Here, young children are not an exception. Brookfield (2012, p.11) argues that this thinking "is not something that only happens when you reach a certain age", and there is no specific age when all children are ready for more advanced thinking. That is to say, Learners of early childhood education from as early as 3 years can learn to think critically (Hübscher et al., 2017). Developing such thinking in young children can be done by empowering them to think critically, pose questions, and formulate possible answers (Simister, 2004). Kennedy et al. (1991) surveyed the research literature and concluded that, although critical thinking ability appears to improve with age, even young children can benefit from the instruction of this thinking. Such learnability in young children suggests that primary school teachers should start by teaching young learners to think critically (Bailin et al., 1999).

In Thai educational contexts, there is plenty of research on critical thinking development in learners. Most of the research has been conducted with high school learners (e.g., Changwong et al., 2018; Chantarasombat & Meekhamtong, 2020; Rumpagaporn & Darmawan, 2007) and with university learners (e.g., Buranapatana, 2006; Ploysangwal, 2018; Ruengkul, 2020). Nevertheless, despite abundant research, little has been done with Thai primary school learners. Some being found are, for example, Dewi et al.'s study (2020) that assesses Thailand primary school learners' critical thinking skills in mathematics education and the study conducted by Boonsathirakul and Kerdsomboon (2023) that synthesises critical thinking research of basic education level learners using meta-analysis in Thailand from 2010 to 2021. Such absence may result in a lack of knowledge guiding the application of critical thinking cultivation of such learners in the existing literature. This paper reviews existing literature on this cultivation in different educational settings, relates it to Thai primary schools, and suggests practical applications and implications for interested parties.

2. Definitions of Critical Thinking

Critical thinking is largely recognised as a fundamental competence which improves decision-making and problem-solving in various disciplines and daily situations. It has been defined in several ways, but a consensus implies a disciplined approach to such cognitive skills as analysing, assessing, and synthesising information. Facione (2000) articulates critical thinking as an essential competence which allows individuals to reason with logic and reflection. Reasoning as an essential component of critical thinking is also highlighted by Ennis (1993) who claims that such thinking implies reasoning on what to believe or do, which requires evaluating the credibility and the relevance of the information to be accomplished. McPeck's notion (2016) is in line with those of Ennis and Facione, adding that critical thinking is also an independent thought, rather than merely taking facts at face value. McPeck clarifies that independent thinkers do not simply absorb information passively; they actively engage with ideas, challenge biases, and seek logical consistency. The thinkers, McPeck maintains, assess different viewpoints, identify logical fallacies, and make informed decisions based on facts rather than emotions or societal pressures. This implies that critical thinking involves cognitive processes and critical thinkers' self-reliance rather than relying solely on external influences. Halpern (2013) likewise notes this point and emphasises that this self-decision-making requires critical thinkers' metacognition: they must be aware of their own thoughts and biases. For Halpern, self-thinking needs self-awareness as the latter helps the thinkers become more able to recognise situational nuances and implications of various choices.

Nevertheless, critical thinking involves not only cognitive skills but also affective

dispositions. Both are intrinsically linked and equally important (Facione, 2000; Paul, 1990). Halpern (1998, p. 452) argues that "Some people may have excellent critical-thinking skills and may recognise when the skills are needed, but they also may choose not to engage in the effortful process of using them". This suggests that cognitive abilities are rendered useless in the absence of dispositions. Facione (2000) defines critical thinking dispositions as the consistent internal motivations that influence an individual's willingness to engage in the thinking, and these dispositions are considered to be changing attributes that, while stable, can be developed over time. Facione explores the empirical research findings that examine the possible relationship between critical thinking skills and the disposition to use those skills. He suggests that a positive correlation exists between one's critical thinking abilities and their dispositions toward it.

According to Facione (1990, p.25), the Delphi Report reached a consensus among educational experts that critical thinking necessitates the following dispositions:

> "inquisitiveness with regard to a wide range of issues, concern to become and remain generally well-informed: alertness to opportunities to use CT, trust in the processes of reasoned inquiry, self-confidence in one's own ability to reason, open-mindedness regarding divergent world views, flexibility in considering alternatives and opinions, understanding of the opinions of other people, fair-mindedness in appraising reasoning, honesty in facing one's own biases, prejudices, stereotypes, egocentric or socio-centric tendencies, prudence in suspending, making or altering judgments, willingness to reconsider and revise views where honest reflection suggests that change is warranted"

Other scholars' notions of critical thinking dispositions can be claimed to be similar. For example, they state that critical thinkers need to be open-minded (Bailin et al., 1999; Ennis, 1993; Halpern, 1998; Simister, 2004). They argued that these thinkers are disposed to accept several points of view and also accept that their perceptions may be incorrect. Concerning inquisitiveness, Ennis (1993) advocates the disposition of trying to be well-informed and Bailin et al. (1999) highlight "an inquiring attitude" (p. 294).

Apart from these, moral considerations are argued to be part of the concept of critical thinking. Although morality is considered to be subjective: being shaped by an individual's interests and cultures (Mulnix, 2002), some scholars contend that this type of thinking should be cultivated alongside moral development. For example, Brookfield (2012) claimed that:

> "If critical thinking is understood only as a process of analysing information
> so that we can take actions that produce desired results, then some of the most
> vicious acts of human behavior could be defined as critical thinking" (p. 16).

Paul (1990) similarly argues that integral to critical thinking should be morality. Costa (2006) echoes this sentiment, believing that nowadays we need people who are not only critical but also moral. Prommak (2019) suggests that after cognitive skills, affective dispositions, and goal orientation are pondered, morality should act as a final filter before making a critical thinking decision. Moreover, Prommak realises the subjectivity of cultures that can shape people's critical thinking conceptions. She therefore proposes a morality concept of "What is morally right will not cause any trouble or suffering to ourselves and others" (p. 198), which

she deems universal for applying in the critical thinking conception. For Prommak, critical thinking products should be considered whether they cause any trouble or suffering to thinkers themselves or others. She maintains that if they do, the thinking products should not be followed or acted upon.

3. Developing Young Learners' Critical Thinking

The development of critical thinking skills in primary school learners is argued to be crucial. Research suggests that the integration of critical thinking in primary school enhances learners' cognitive processes, involving them in deeper learning experiences (Alghafri & Ismail, 2014). Florea and Hurjui (2015) highlight the role of this thinking in promoting essential skills, such as analysis, evaluation and reasoning among young learners. These skills are invaluable to academic success as they allow the learners to understand and synthesise information more efficiently. Kettler (2014) conducted a comparative analysis of critical thinking skills between education and general education learners, finding that those encouraged to develop it from an early age tend to overcome their peers academically. This discovery highlights the importance of early intervention in cultivating these essential skills. Moreover, Brosseau-Liard (2017) emphasises that learning involves not only understanding knowledge but also recognising and avoiding misinformation. For Brosseau-Liard, failure to help young children in analysing this information may result in them being at risk of being deceived. In other words, critical thinking can help prevent young children from being misled.

Elder and Paul (2020) suggest that in cultivating critical thinking in children, explicit instruction is needed. That is to say, teachers are required to clarify what they are teaching to them: showing them as a model of how to start and succeed on a task. Nevertheless, through this direct and structured way of teaching, the children may just recite and copy it. The challenge then is how the teacher can deliver the explicit instruction critically to encourage the children to generate their critical thinking outputs.

For Cole and McGuire (2012), the most effective strategy to encourage critical thinking in early learners is to present them with authentic and meaningful challenges. They claim that such challenges should elicit a personal connection from the learners while also being properly hard, stimulating deeper exploration and involvement in discovering solutions. In the study conducted by Papadopoulos and Bisiri (2020), they found that folk stories, fairy tales and games can be applied to develop preschoolers' critical thinking skills. In Prommak's study (2019), one of her findings revealed that teachers believed children's critical thinking could be nurtured by helping them be critical about their own emotions and thinking. According to Prommak, this can be done by asking them meaningful questions that trigger their criticality, such as how they think and feel about certain situations and how they will deal with them. Prommak maintains that when children's thinking and feelings are metacognitively monitored and when potential solutions are explored and inferences made, they are in the process of critical thinking. The questioning technique in fostering children's or young learners' critical thinking is endorsed by many scholars (e.g. Bailin et. al., 1999; Collins, 2016; Dejonckheere et al., 2016; Sare et al., 2019).

Some scholars advocate using Information and Communication Technologies (ICTs) to develop young learners' critical thinking. For example, Giavrimis et al. (2011) explored the perspectives of primary school teachers in Greek contexts on the role of ICTs in fostering critical thinking among learners. They found that most teachers regard ICTs as a valuable tool to promote interactive learning, problem-solving, and independent reasoning, thereby deeper learning. However, some of the teachers expressed their concerns about the over-reliance on technology, lack of proper training, and unequal access to ICTs, which might

hinder effective implementation. This study highlights the importance of equipping teachers with adequate training and resources to integrate ICT effectively into critical thinking instruction. Shkvyr et al. (2020) verified the validity of the methodology for developing critical thinking in primary school pupils in the Ukrainian educational context using ICTs. Their research findings are similar to those of Giavrimis et al. (2011). Shkvyr et al. found that ICTs provided these pupils with interactive and dynamic learning environments that encourage questioning, exploration, and decision-making. With teachers interacting with them through scaffolded assistance and critical and meaningful questioning, the pupils could learn to analyse information, compare perspectives, and develop reasoning skills. Shkvyr et al. note that the teachers need to ensure that the activities provided promote independent thought, as opposed to passive consumption. For some challenges that may arise, Shkvyr et al. point out digital literacy and the need for teacher training to maximise ICTs' benefits.

Bailin et al. (1999) contend that the instruction of critical thinking in primary education can encompass several key components, including the promotion of the following skills: an appreciation for reason and truth, a respectful attitude towards peers during discussions, openness to diverse viewpoints, readiness to understand perspectives different from their own, abilities to distinguish between definitions and empirical claims, an application of cognitive strategies, such as soliciting examples when faced with ambiguity, and the employment of critical thinking principles, such as evaluating alternatives before making decisions. Bailin et al. note that emphasis should be placed both on critical thinking skills and dispositions. Bailin et al. assert that the dispositions or habits of mind for the thinking can be instilled in them since they are very young. Their assertion conforms to Hudgins et al. (1989, p. 329) who state that "the end goal for teaching children to become critical thinkers is the development of a disposition to do so". Prommak (2019) likewise mentions the cultivation of critical thinking dispositions in young learners in class and their playtime. In the Thai primary educational context, Prommak suggests that Thai primary learners' critical thinking may be fostered by telling Thai traditional folktales, which often include Thai cultural ideas, values, wisdom and morals. Prommak asserts that learners could be encouraged to reflect on the lessons imparted by the folktales, envision themselves as the characters within these narratives, and contemplate their potential actions in various situations.

4. Applications of Critical Thinking to Thai Primary School Learners

In Thailand, children are required to begin their primary education at the age of 6, which mandates their enrollment in school. The primary school system lasts for six years, covering the levels of Prathom 1 through 6, so by the end of this education, the learners will be approximately 12 years old. This system can be divided into lower elementary (Prathom 1-3) and upper elementary (Prathom 4-6). Additionally, government schools offer primary education at no cost. In Thai primary school education, there are eight core subjects as stated in the National Curriculum, including Thai language, mathematics, science, social studies, religion and culture, health and physical education, arts, careers and technology, and foreign languages (Office of Education Council, Ministry of Education, 2011). At this educational level, there seems to be no distinct course dedicated to the development of critical thinking. It can be inferred that this skill may be integrated into the curriculum as embedded instruction, as outlined in the 1999 National Education Act of Thailand, which mandates that learners at all educational levels should be nurtured in their critical thinking abilities (Office of the National Education Commission 2002). This paper argues that a critical thinking course should be provided to Thai primary school learners, as discussed as follows.

Critical thinking development in children requires explicit instruction (Elder & Paul,

2020). In such instruction, critical thinking is taught as a separate subject, focusing on key skills that help develop critical thinking. These skills are useful in both school and everyday life. Literature suggests that teaching critical thinking should engage students actively when introducing new skills. In Thailand, most critical thinking courses are offered at the university level (Prommak, 2019). Nevertheless, in the Thai primary school context, explicit instruction for critical thinking can be arranged, focusing on reflection practice that allows Thai primary school learners to apply what they have learned in different situations. It is also important to note that, despite being primary school students, they need to understand what they are studying and the reasons behind it. They should be aware of the subject matter and how it can be advantageous for them. Moreover, although critical thinking concepts appear quite philosophical, they can be simplified to suit this group of learners. That is to say, teachers should explain to learners what critical thinking is, the advantages of using this type of thinking, and how it can be applied in various contexts or situations. This can be done by asking the learners pertinent questions and encouraging them to create knowledge by themselves. These questions could be used in different instructional formats, such as group discussion, journaling, and roleplay). Some examples of such questions are below:

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- Should we believe everything people say? What are the reasons for or against it?
- Do you think what I said is accurate? What gives you confidence in me?
- Should we adopt other people's ideas? Can we come up with our own thoughts? What do you think about that?
- What are the advantages of thinking carefully before taking any action?
- When we come across ads for skin lotions that claim to improve skin whiteness online and on television, do you believe they are true and credible? Should we consider buying them? Why or why not?

While teaching critical thinking to learners, their schemata should be simulated, connecting their existing knowledge with what they are going to learn. Moreover, given that using what is relevant to learners can increase their motivation to learn (Prommak, 2019), teachers can use what is in their real life or the learners' experiences as case studies for them to discuss in terms of critical thinking analysis. Since they are young learners, case studies, particularly those related to their everyday lives, can be applied. Creating real-world simulations is important, and the learners should be offered chances to talk about challenges in those situations. According to Cole and McGuire (2012), the best way to foster critical thinking in young learners is by offering them genuine and relevant challenges. Incorporating real-world problems in teaching problem-solving skills enhances the chances that learners will apply these skills beyond the classroom (Bailin et al, 1999).

Moreover, teachers should encourage their learners to view everything around them as text filled with stories and narratives. As Brookfield (2015, p. 48) puts it, "Everyday communications are subject to a continuous and ever-present set of assumptions". This means that the way we perceive and engage with our surroundings is shaped by the beliefs and ideas we hold which are subjective. Realising certain subjectivity embedded, it is expected that learners will be aware of their own biases as well as those of others, allowing them to engage more thoughtfully with diverse perspectives in various situations. This also helps them develop awareness and apply their critical thinking skills in other aspects of life.

Since they are primary school learners, modelling how to think critically is essential. For example, when teaching them to reason effectively, inductive reasoning and deductive reasoning can be demonstrated. Inductive reasoning is the process of forming general conclusions from specific observations or examples. For instance, if we notice that the sun

consistently rises in the east every morning, we may conclude that it will always rise in that direction. In contrast, deductive reasoning begins with a general principle and applies it to particular situations. For example, recognising that all humans are mortal allows us to deduce that any individual we meet is likewise mortal. Both reasoning approaches play a crucial role in our everyday decision-making, as they help us draw conclusions and make well-informed choices based on the available information. Learners can learn to select the types of reasoning appropriate to certain situations. They need to understand that the reliability of a conclusion derived from inductive reasoning depends on the comprehensiveness of the observations made. In contrast, a conclusion reached through deductive reasoning does not always ensure accuracy, as it may be affected by different variables. Notably, it is essential that modelling is accompanied by opportunities for learners to engage in practice in various contexts.

When engaging learners in the practice of their critical thinking skills during class, it is essential to bear in mind that teachers need to avoid labelling their arguments as right or wrong. The key is to ensure they grasp the principles of critical thinking. The teachers can foster such thinking by posing thought-provoking questions. Such questions usually start with "why" and "how," or they present alternatives that encourage deeper thinking. Some examples of the questions are below.

- Why should you believe me/him/her/them?
- How will you solve this problem?
- How do you know this?
- Did you consider other perspectives?
- What will happen if you act differently?
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The application of Information and Communication Technologies (ICTs) is claimed to significantly enhance the critical thinking abilities of young learners for it offers the learners engaging and dynamic learning environments that promote inquiry, exploration, and decision-making (Shkvyr et al., 2020). ICTs refers to the various types of technology that surround us, including devices such as mobile phones, computers, CD and DVD players, and digital cameras. It is true that children these days readily embrace technology as an integral aspect of their lives and swiftly acquire the skills to utilise it. They have entered a technologically advanced environment, and there are numerous ways to assist them in making the most of it. In the context of Thai primary schools, the integration of ICTs to enhance critical thinking skills among learners is practical, as the majority of classrooms have access to a range of technological resources. This can be done through a range of activities, such as using virtual field trips on the Internet. As Kamaridinovna (2023) suggests, virtual field trips serve as a valuable resource for enhancing critical thinking abilities in children, and teachers can utilise them to guide learners through a digital exploration of various locations, allowing learners to engage with the material by investigating and evaluating the information presented. Additionally, this can also be done by presenting an example of an online advertisement and prompting learners to evaluate its credibility. Teachers should encourage them to share their thoughts before summarising their insights and arriving at a conclusion on how to engage with internet advertisements critically.

During critical thinking activities in class, Thai primary school learners should be encouraged to metacognitively reflect on their thoughts. Brookfield (2012) states that metacognition, which is the awareness and comprehension of one's own thinking processes, is essential for developing critical thinking skills. It is argued that by enhancing metacognitive abilities, teachers can assist Thai primary school learners in better analysing their thoughts,

challenging their beliefs, and ultimately boosting their problem-solving skills. In the research carried out by Prommak (2019), a participant recommended employing questions as a means to stimulate critical thinking among primary school learners. The questioning technique is applicable within the context of Thai primary schools to encourage pupils to engage in critical metacognitive reflection about their own thoughts and processes. Here are some examples of questions that may be utilised.

- Why are you upset? How will you take care of yourself to feel better?
- What motivated you to make this choice?
- Are you on the right track now?
- In what ways can your learned knowledge be applied in other areas?
- How does group work help you learn?
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Another method to foster the development of Thai primary school learners is the implementation of positive reinforcement. As Hudgins et al. (1989, p. 329), put it, "The end goal for teaching children to become critical thinkers is the development of a disposition to do so". Critical thinking dispositions refer to the fundamental attitudes, habits, and inclinations that shape an individual's approach to reasoning and making decisions (Lai, 2011). Such dispositions can be improved through the application of positive reinforcement from teachers (Prommak, 2019). When teachers acknowledge learners for their efforts and achievements, it fosters a supportive learning environment. This, in turn, motivates the learners to engage more deeply with the material, question assumptions, and explore various perspectives. It can thus be said that positive reinforcement enhances the likelihood of students engaging in critical thinking. In Thai primary school contexts, positive reinforcement can manifest in numerous ways, including physical rewards, such as candy, treats, toys, money, or points that can be exchanged for prizes. It can also involve non-material gestures, such as a teacher smiling at a student, praising or providing encouraging words, recognising their hard work, granting them a higher grade, choosing them for a special project, or praising their intelligence in front of their parents. Importantly, their ability to express thoughts and imagination must remain unrestricted. Consistent positive reinforcement should be provided to foster their creativity and encourage unconventional thinking, both of which are vital components of critical thinking.

Although explicit instruction of critical thinking is endorsed in Thai primary school contexts, this paper also argues that embedded instruction is equally important. The development of critical thinking skills can be integrated into various other subjects. This can be done by introducing topics within the framework of a problem or issue enhances student motivation and fosters a deeper comprehension of the material. Teachers can facilitate a more profound understanding of the subject matter, rather than just encouraging rote memorisation, by framing it as a problem to be solved. It can also be done by raising thought-provoking questions in class that generate discussions conducive to critical thinking development. For example, in a social studies class, a teacher could start the discussion by exploring the importance of history. They might ask learners why they think learning about history is valuable and how it can influence our understanding of the present and future. The teacher could encourage learners to consider how historical events shape our society, culture, and identity.

The critical thinking approach discussed so far is posited to be applicable within Thai primary school settings. Nevertheless, this does not imply that its implementation is devoid of difficulties. A major challenge anticipated arises from the influences of Thai culture and

Buddhism, which will be elaborated upon in the following section.

5. Thai Culture and Thai Buddhism as Factors Affecting Critical Thinking Development in Thai Primary School Contexts

Learning as a cultural process usually derives from local wisdom (Prommak, 2019), suggesting that educational structures are influenced by the values and beliefs of their community. In Thailand, Thai learners' educational experiences are contextual and often guided by their culture (Nomnian et al., 2020). Prommak's study (2019) indicates that Thai culture and Thai Buddhism significantly fashioned how Thai learners engage in critical thinking. It can thus be claimed that the development of critical thinking among primary school learners in Thailand is influenced by Thai culture and Buddhism, necessitating careful consideration of these factors.

In Thai culture, respect for teachers and adhesion to authority is valued, reflecting the predominant cultural hierarchy in Thai society. Many scholars argue that this cultural value can sometimes suppress learners' willingness to express their ideas or challenge existing opinions (Kapur-Fic, 1998), the attributes that are vital to the learners' critical thinking development. Kapur-Fic maintains that Thai learners, in general, are often expected to accept information from their teachers without questioning it. They tend to believe that their teachers know best, and if learners talk back or express ideas that are different from those of their teachers, they may be afraid to be seen as disrespectful (Prommak, 2019). Thamraksa (2003) similarly claims that Thai classrooms exhibit a significant power distance between teachers and learners, where the teachers are pivotal in delivering knowledge, while learners typically adopt a passive role in the learning process. Moreover, the Thai culture of saving face can also be a barrier to critical thinking development. As Pattapong (2015) puts it, Thai learners tend to refrain from asking questions to avoid losing face, while also preserving the dignity of their teachers. These cultural backgrounds may make it difficult for teachers to encourage a class environment that promotes open dialogue and critical commitment.

In the context of Thai primary schools, where learners are often conditioned to show obedience to their teachers, challenges may arise. However, fostering critical thinking among these learners is indeed possible. This can be achieved by gradually shifting their perception of what it means to be a good student and promoting critical thinking as a valuable aspect of the learning culture. One effective approach is to arrange activities that encourage learners to articulate their views on the characteristics and behaviour of exemplary students in the classroom. Through this process, the influence of Thai culture on their learning can become evident; for instance, learners may express beliefs, such as good learners should always listen to their teachers, refrain from questioning them, or avoid arguing with them. Once the learners are made aware of these perceptions, the teachers can then guide them in critically evaluating and analysing the validity of these beliefs. Furthermore, regarding the respect given to teachers, it is crucial for learners to understand that respect can take many forms and should not be mistaken for mere blind obedience or submission. Inquiring or asking questions in class is, in fact, crucial in the learning process and should be regarded as a form of honouring their teachers. This is because generally individuals typically ask questions when they possess a genuine interest in the subject matter. The questions learners raise during class should reflect their authentic engagement with the material being presented by their teachers. In addition to asking questions, respect for teachers can be shown through such behaviour as paying attention in class, joining discussions, being responsible, following rules, communicating politely, and not being disruptive.

Regarding the Thai cultural practice of face-saving, it is likely that some primary

school learners in Thailand hesitate to voice their opinions that diverge from those held by their teachers and peers. The underlying reason for this reluctance is often rooted in a fear of losing face, which refers to the concern about maintaining one's dignity and social standing within a group. Consequently, these learners may choose to remain silent or conform to the prevailing views, prioritising harmony and acceptance over individual expression. This dynamic can affect their readiness to participate in open conversations and may obstruct the growth of critical thinking skills as they deal with the complexities of social interactions in a learning environment. This issue can be addressed by reshaping learners' perceptions regarding the culture of learning. They need to recognise that effective learners not only demonstrate critical respect towards their teachers but also possess the courage to articulate differing or opposing viewpoints that they believe are relevant. Most importantly, when all learners comprehend that effective learners are those who actively contribute to the class, they will develop a greater understanding of one another, thereby reducing the likelihood of encountering negative reactions from their peers. This paper contends that when teachers provide positive reinforcement to learners who share diverse perspectives, it can strengthen the collective understanding of the learning culture and the qualities that define effective learners.

With respect to Thai Buddhism, it is Theravada Buddhism which is observed by most Thai people. The close relationship between Thailand's education can be seen in the 1999 National Education Act (Office of the National Education Commission, 2002), which stipulates that in Thai educational contexts, teachers are to provide their learners not only with knowledge but also with morality. It should also be noted that the teachers are expected to not only impart moral values to their learners but also to embody these principles themselves (Kapur-Fic, 1998). As a consequence of this, Buddhist Studies is a required course for learners in both primary and secondary education. It can thus be claimed that Thai Buddhism significantly influences the educational system in Thailand.

Taking Buddhism into consideration, its essence shows that this religion is closely connected to natural science because its principles rely on the logic of causes and conditions (Payutto, 2007). Such logic indicates that Buddhism is a critical philosophy with criticality being emphasised. In Thai Buddhism, indeed there are several doctrines advocating critical thinking development, such as *Kalama Sutta* and *ariya-sacca*. Regarding the *Kalama Sutta*, this represents the Buddha's instruction provided to the *Kalama* community, who inquired about which religions they should follow. The Buddha advises against accepting beliefs solely based on the following criteria: do not accept them merely because you have heard them; do not accept them just because you have learned them; do not accept them solely due to their historical practice; do not accept them simply because they are rumoured; do not accept them just because they are found in sacred texts; do not accept them based on logical reasoning alone; do not accept them through mere speculation; do not accept them solely through rational thought; do not accept them just because they align with your existing theories; do not accept them merely because they appear plausible; and do not accept them simply out of trust in your teacher (Payutto, 1993). Payutto also claims that the Buddha argues that even his own teachings are open to scrutiny. This indicates that one's belief should stem from one's verification. Prommak (2019) contends that this doctrine encourages the following six essential components of critical thinking: open-mindedness, caution, curiosity, contemplation, discernment, and independence. Concerning *ariya-sacca*, Payutto (1993) states that the doctrine serves as an essential approach to finding solutions and is relevant to various types of issues or suffering. The approach of *ariya-sacca* involves the following four noble truths: *Dukkha, Samudaya, Nirodha*, and *Magga*. *Dukkha* refers to suffering, *Samudaya* signifies the

origin of suffering, *Nirodha* denotes the cessation of suffering, and *Magga* represents the path leading to the end of suffering (Payutto, 1993). As can be seen from the doctrine's essence, this is a means of addressing problems through scientific, logical analysis, thereby fostering the development of critical thinking skills. Thai primary school students should receive instruction on these doctrines. They could be incorporated into a required Buddhist Studies course or integrated into other subjects as embedded instruction.

Nevertheless, Kapur-Fic (1998) argues that numerous individuals in Thailand misinterpret Buddhist teachings as a barrier to the development of critical thinking. According to Kapur-Fic, while Buddhism promotes the expression of gratitude towards parents and benefactors, many Thai people perceive this gratitude as needing to be expressed through respect and obedience. Kapur-Fic claims that individuals, especially the youth, are expected to show obedience to their parents and benefactors; failure to comply with this expectation may result in their actions being deemed sinful according to their Buddhist beliefs. However, Kapur-Fic notes that this appears to be a misinterpretation, asserting that whereas the majority of Thai individuals practice Buddhism, they might not have a deep understanding of its teachings. Although Buddhism acknowledges that being grateful is a sign of a good person, gratitude to parents and benefactors can be expressed in various ways, such as engaging in virtuous actions, avoiding wrongdoing, and maintaining a pure mind. Demonstrating respect as a means of expressing gratitude towards parents and benefactors can also be approached critically. This can involve assisting with their tasks and housework and showing respect both in their presence and in their absence, striving to lessen parents' burdens, and avoiding creating issues that may lead to their distress. Interestingly, the topic of how to show respect towards parents and benefactors, according to Buddhist beliefs, can be a relevant issue for Thai primary school learners to examine and explore, as it pertains directly to their everyday experiences. It is anticipated that by engaging in self-directed inquiry through reasoning, reflection, analysis, and evaluation, their critical thinking skills will be enhanced.

6. Implications

This paper argues that it is essential to teach critical thinking to primary school learners in Thailand, given the technological advancements they are increasingly exposed to. The existing literature indicates that the development of criticality is integrated within various subject areas in Thai primary schools. However, there is a lack of research examining the degree to which Thai primary school learners are actually developing these skills and the effectiveness of such integrated instruction. This paper argues that there is a necessity for a dedicated course that explicitly teaches the fundamental principles of critical thinking. Such a course could be implemented in conjunction with the existing embedded instruction. As Halpern (1998) claims, learners of all educational levels need extensive practice to develop into critical thinkers.

For teachers, when designing problems as contexts for practising critical thinking, it is crucial to consider the emotional engagement and challenges faced by these young learners. In other words, the tasks created by teachers should aim to enhance their cognitive skills and affective dispositions without leading to frustration. Additionally, since critical thinking is not an inherent ability, it is important to provide scaffolded support and strategies to help students organise their thought processes. Furthermore, the teachers need to be knowledgeable about instructional methods and resources that promote critical thinking. This suggests that a training program aimed at enhancing Thai primary school teachers' comprehension of critical thinking and its pedagogical approaches is essential.

In addition to the need for teachers to possess knowledge and resources for effective

critical thinking instruction, it is clear that educating Thai primary school learners requires a significant amount of patience. The cultivation of critical thinking skills in these learners in the Thai context, where some Thai cultural features appear to inhibit development of that thinking, can be both challenging and gradual; however, with suitable instruction, support from teachers, and consistent practice by the learners, progress is achievable and development can be anticipated. Additionally, given that certain doctrines of Thai Buddhism promote critical thinking, it is argued that teachers can integrate these as methods to enhance their Thai primary school learners. It is also interesting for future research areas to measure the actual impact of cultural and Buddhist-based critical thinking instruction in Thai primary schools.

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