Developing Engineering Students' Critical Thinking Skills through Reading Short Stories

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As stated in section 28 of the National Education Act of B.E. 2551 (2008), the substance of the curricula, both academic and professional, places an emphasis on human development with critical thinking. Therefore, the purpose of this study was to investigate how critical thinking can be developed through close and analytical readings of short stories. A book club was established to facilitate the conduct of the research in which eleven participants comprising KMUTT students from different departments were assigned to read nine English short stories and discuss their opinion and understanding of each text in groups. Further data were collected through the participants' personal written journals. They were used as evidence to demonstrate the subjects' individual interaction with the texts which according to the 'reception theory' (Fish 1980; Holland 1975) have independent meanings and are open to interpretation. The implementation of the research was based on Bloom's taxonomy (1956) which classifies cognitive behaviours into six categories, ranging from the fairly simple to more complex. The results reveal that some of the subjects were able to read and understand the texts in a more critical manner and their perceptiveness broadened. Also, it is hoped to shed light on the application of literature in developing critical thinking skills.
Key words: reading, short stories; Bloom's taxonomy; critical thinking skills

การพัฒนาทักษะการคิดวิเคราะห์ของนักศึกษาวิศวกรรมศาสตร์ผ่านทางการอ่านเรื่องสั้น

พระราชบัญญัติการศึกษาแห่งชาติ พ.ศ. 2551 มาตรา 28 มีแนวคิดเกี่ยวกับหลักสูตรทั้งทางด้าน วิชาการและการอาชีพว่าควรให้ความสำคัญกับด้านการพัฒนาความเป็นมนุษย์ด้วยทักษะการ คิดวิเคราะห์ งานวิจัยชิ้นนี้จึงมีวัตถุประสงค์เพื่อศึกษาวิธีการพัฒนาทักษะการคิดวิเคราะห์ด้วย การอ่านเรื่องสั้นอย่างละเอียด ผู้วิจัยได้ตั้งชมรมการอ่านเพื่อที่จะดำเนินการวิจัย โดยมีนักศึกษา จากภาควิชาต่างๆที่สนใจเข้าร่วมโครงการ ทั้งนี้นักศึกษาจะต้องอ่านเรื่องสั้นทั้งสิ้น 9 เรื่อง และ หลังจากที่อ่านแล้วต้องแสดงถึงความเข้าใจและแสดงความคิดเห็นต่อเรื่องที่อ่าน ผู้วิจัยได้เก็บ ข้อมูลโดยการให้นักศึกษาเขียนบันทึกประจำวันทุกครั้งที่เข้าร่วมกิจกรรมแลกเปลี่ยนความ คิดเห็น โดยใช้เป็นหลักฐานเพื่อแสดงปฏิสัมพันธ์ของผู้เข้าร่วมต่อเนื้อหาที่ได้อ่านตามทฤษฎี Reception ของ Fish (1980) และ Holland (1975) โดยทฤษฎีนี้ได้กล่าวไว้ว่า เนื้อหาหรือเรื่อง ที่อ่านใดๆ ก็ตามนั้นมีความหมายอิสระและเปิดกว้างให้ผู้อ่านตีความได้ นอกจากนี้แล้วผู้วิจัย ยังได้ใช้ทฤษฎีการเรียนรู้ของ Bloom (1956) ซึ่งได้แบ่งการเรียนรู้เป็น 6 ระดับ เริ่มตั้งแต่ระดับ ล่างไปจนถึงระดับที่มีความซับซ้อนมาก จากผลการวิจัยพบว่าผู้เข้าร่วมโครงการบางคน สามารถอ่านเรื่องสั้นได้อย่างเข้าใจ สามารถคิดวิเคราะห์ได้ดีและมีมุมมองที่กว้างขึ้น ผู้วิจัย คาดหวังว่างานวิจัยชิ้นนี้จะมีประโยชน์ในด้านการประยุกต์ใช้วรรณคดีในการพัฒนาทักษะการ คิดวิเคราะห์
คำสำคัญ: การอ่าน เรื่องสั้น ทฤษฎีการเรียนรู้ของ Bloom ทักษะการคิดวิเคราะห์

Introduction

King Mongkut's University of Technology Thonburi, as the name suggests, is an academic institution that offers a wide variety of technology-oriented courses, most of which belong to the faculties of Engineering, Science, Industrial Education and Information Technology. Therefore, it is not surprising to learn that the teaching of English at KMUTT forms only a small part of the curricula, making up nine compulsory credits. In order to graduate, students are required to take three English subjects, LNG 101 Fundamental English 1, LNG 102 Fundamental English 2 and LNG 103 Fundamental English 3. If the students have higher scores of English from the entrance examination, they may be allocated to other elective courses that suit their level such as Oral Communication 1-2 or English for Work.

Due to the limited number of elective or optional courses that the students are required to take and the nature of their studies, the department of Language Studies feels obliged to comply with their academic needs as well as interests. The department has tried to accommodate the students' main concentration by designing the materials of each English course in a technology-orientated manner. To clarify, an example is the subject LNG 103 in which a whole chapter is dedicated to the topic "gadget/technology design." The students are required to invent an imaginary technological tool and explain the process of its function in writing and oral presentation. The input they are given before the work begins includes technology-related reading passages and relevant sets of vocabulary and expressions.

As a result of this, the research team felt that the students' reading abilities were not fully developed because of the limited type of passages they have been exposed to. We also believed that technology-related passages were straightforward, consisting of sets of fixed expressions and ideas that did not require further elaborate thinking skills above the comprehension level. Hence, the research team agreed that extensive reading should be used in order to stimulate the students' critical thinking skills, one of the skills the Thai government would like to promote as stated in section 28 of the National Education Act of B.E. 2551 (2008). Although the students have access to the Self-Access Learning Centre, organised by the School of Liberal Arts, where a large number of fictional works are available, there has been no concrete evidence as to how the students really make use of the materials nor has there been any prior attempt to investigate whether the students develop any critical thinking skills after reading the materials.

The book club was the research team's solution for the two aforementioned problems. By exposing the students to a number of short stories, we would like to answer the two following research questions:

1. Based on Bloom's taxonomy, which levels of thinking do students' reflections belong to?
2. How will the reading of short stories develop the students' critical thinking skills?

Literature review

What is critical thinking?

Over the past several decades, many definitions of critical thinking have been proposed. Critical thinking can be defined as reasonable, reflective thinking that is focused on deciding what to believe or do (Ennis, 1987) or thinking that is purposeful, reasoned and goal directed (Halpern, 1989). According to Bensley (1998), critical thinking is reflective thinking involving the evaluation of evidence relevant to a claim so that a sound conclusion can be drawn from the evidence. Facione (1990) argues that the keys of critical thinking include interpretation, analysis, evaluation, inference and self- regulation. Analysis is identifying the relationship between statements, questions, or descriptions to express judgment. For evaluation, it is assessing the credibility and the logical strength of statements, descriptions or questions. Inference refers to the ability to draw reasonable conclusions based on facts and judgments. Self-regulation, the last skill, is seen as the ability of an individual to monitor their own personal cognitive activities to make sure that they are engaged in critical thinking.

Importance of critical thinking in learning and teaching

Since critical thinking is highlighted as one of the six major intellectual and practical skills to be gained during undergraduate study (Association of American Colleges and Universities, 2004) and in Thailand is stated in the National Educational Act of 2008 as a skill that must be offered through the curricula, the importance of critical thinking seems to be recognised. However, most students are still deprived of this necessary skill. Many educational reports including the National Assessment of Educational Progress demonstrated that the American educational system was failing to teach many of its students to think effectively. Mckinnon and Renner (1971), for example, found that only 25% of all first-year college students after being tested showed the ability to reason logically and abstractly. Langer and Applebee (1987) found that students often had difficulty in persuasive and analytic writing, two kinds of writing that require critical thinking. For Thailand, very little research has been done and very few courses are designed to address this concept. Khuankaew (2010) investigated the impact of using literary and non-literary texts as

supplementary reading in a writing class focusing on critical writing. Quantitative results from a t-test analysis show the development of writing and critical thinking in both experimental and control groups. From the findings of her study, it shows that reading literature and critical thinking are interrelated as it is believed that reading literature is a common practice for the students to analyse the themes, plots, characters, setting and others so that they can criticise works of literature.

Regarding the methods of teaching critical thinking, in the Western world, there have been numerous attempts to address the topic. Gokhale (1995), for example, contends that collaborative learning can help improve students' critical thinking skills. However, the idea of critical thinking through the act of reading seems the most prevalent; the intricate link between reading and critical thinking has been emphasised. Students can substantially develop their thinking skills while reading. Based on the 'reception theory', texts have independent meanings and are open to interpretation. This approach focuses on readers. Readers interpret the meanings of the text based on their individual cultural background and life experiences. In essence, the meaning of a text is not inherent within the text itself, but is created within the relationship between the text and the reader. Tierney and Pearson (1983) maintain that reading offers the potential for higher level thinking as readers draw on background experiences to compose a text and engage in an ongoing negotiation to gain the meaning. According to Wilson (1988), critical literacy allows the use of strategies and techniques such as formulating questions before, during, and after reading, responding to the text in terms of the student's own values, anticipating texts, and responding to texts through writing activities which ask readers to interact with the text in personal ways.

Literature, especially as a critical text, can be used to stimulate students' critical thinking. Through literature, students learn to read personally, actively, and deeply (Sweet, 1993). Tung & Chang (2009, p. 291) have elaborated the inextricable link between literature reading and critical thinking:

> Literature reading is a complex process that requires readers to recall, retrieve and reflect on their prior experiences or memories to construct meanings of the text. While they are doing so, they need to demonstrate the following capacities: to differentiate facts from opinions; to understand the literal or implied meanings and the narrator's tone; to locate details related to the issues discussed; to find out the causal relationship or the connections between the events or actions; to detect an inferential relationship from the details observed; to be perceptive of multiple points of views; to make moral reasoning and fair-grounded judgments; and most of all, to apply what they have learned from this process to other domains or the real world.

Similarly, according to Riecken and Miller when literature is approached from a problem solving perspective, students are asked to evaluate evidence, draw conclusions, make inferences, and develop a line of thinking (1990). Even for children, literature offers them more opportunities to consider ideas, values, and ethical questions (Somers & Worthington, 1979).

Measuring critical thinking

How to measure critical thinking is also a significant topic. This paper will use Bloom's taxonomy as the basis for measuring students' critical thinking level. Benjamin Bloom established a hierarchy of educational objectives, which can be called Bloom's taxonomy. It divides cognitive objectives into six levels moving from basic to high levels of thinking. These include knowledge, comprehension, application, analysis, synthesis, and evaluation. All of these stages relate to how the brain processes information and thoughts (Bloom et al., 1956).

Bloom's taxonomy classifies cognitive behaviours into six categories, ranging from fairly simple to more complex. These categories are described by Orlich et al. (1998) as follows:

a. Knowledge: This category emphasises remembering - either by recall or recognition. Both processes involve the retrieval of information stored in the mind. The information is retrieved in basically the same form as it was stored. For example, in a reading class, the teacher may ask students to name the main characters of the story in the previous lesson. In answering this question, students would be retrieving the knowledge in the same form as it was received.

b. Comprehension: This involves transforming information into more understandable forms. There is a distinction between this processing and recalling. Through the act of processing, students transform information into a form that makes sense to them. For example, after reading a story, students may summarise the story in a diagram or paraphrase by using their own words. That is they can state the differences and similarities of the two characters; in other words, they are making comparisons and contrasts.

c. Application: This category involves using information to find a solution to a problem. The activity that can be used to enhance this level of thinking is asking them to help the characters in the story solve the problem. Students have to propose ideas which are applicable to the problem.

d. Analysis: The emphasis in this level is on explaining how the various parts of a complex process or object are arranged or work together to achieve a certain effect. The teacher may give a poem or a story for students to read and ask them to explain how the different elements interweave to achieve an effect.

e. Synthesis: The key of synthesis is creativity and uniqueness. Synthesis is the process of combining parts in such a way as to constitute a pattern or a structure that did not exist before. For example, after reading the story, they may write a short story of their own.

f. Evaluation: To function at the evaluation level, the students must set up appropriate standards or values and determine how closely the idea or object meets standards or values. This brings out the subjective and creative component of evaluation. For instance, students may make a judgment on the characters in the story. They may evaluate the value of the story.

Research Methodology

Subjects

Regular members of the book club comprised of eleven students (nine male and two female), five of whom are 4th year Mechanical Engineering students. The rest are 1st year Computer Engineering students. These students were chosen because of their good performances in English classes. Also, they expressed their desire to be well-trained in reading English texts. From 11 students, four students were further chosen to be the subjects of this study because they regularly participated in the reading club, submitted their journals, and their journal entries generated several critical thinking levels.

Requirements

Apart from being expected to read the short stories beforehand and actively participating in the discussion, the members were asked to keep reflective journals on the stories they read. Each journal was one to two pages in length and was in either Thai or English. After having discussed the ninth story, the research team called each member to fill in a questionnaire and to conduct an in-depth interview with each member.

Criteria for Selecting Short Stories

The criteria for choosing the short stories for discussion among members in the book club can be divided into three main scopes. The first one is **the level of difficulty**, in terms of length (number

of words), linguistic features (i.e. level of vocabulary, writing styles, and structure of the text) and literary elements (number of characters, symbols and other literary techniques). The level of difficulty was our priority because of the time constraint of each session and the members' reading abilities. Each session lasted 45 – 70 minutes; therefore, it did not leave much time for long, discursive discussions. In addition, texts which were too long would discourage the subjects' interest and texts which were too difficult would hinder their comprehension of the texts which in turn would obstruct the flow of critical/analytical skills.

The second scope of criteria is **the themes of the stories**. The researchers chose a variety of texts that contain different themes to stimulate the members' critical thinking. The themes range from topics familiar to the members such as human relationships such as parental, spousal and sexual love, jealousy and selfishness to topics beyond the members' existing knowledge such as Western traditions and European colonialism. The familiar topics were discussed in a more active and argumentative manner whereas the topics with which the subjects were not familiar yielded more difficulties both in reading comprehension and critical interpretation.

The last criterion responds to **the researchers' convenience**. All of the nine stories included in the book club have been carefully studied and analysed by the research team. The researchers are highly familiar with the chosen texts due to the fact that these stories were part of the researchers' past studies and the discussions were done in formal classroom settings, conducted by professional, experienced lecturers with high expertise. Prior to the discussion in the book club, the texts were also scrutinised by more readings of different criticisms available.

The nine short stories discussed in the book club are as follows:
1. Ernest Hemingway's *A Very Short Story*: The love story of a soldier and a nurse during the war that turns out to be just a quick, meaningless affair
2. Dorothy Parker's *A Telephone Call*: The psychological battle of a woman who is waiting for her man to telephone her
3. Roald Dahl's *Lamb to the Slaughter*: The story of a woman who kills her husband with a frozen lamb leg and covers up her crime
4. Sally Benson's *The Overcoat*: The contemplation of her situation in life recalled by a woman going home on the subway
5. Oscar Wilde's *The Happy Prince*: The story of a prince who after his death is turned into a statue and a swallow that responds to the prince's requests

6. Katherine Mansfield's *The Doll's House*: The story of a girl who extends her compassion to the pitiful girls who are shunned by the society

7. Shirley Jackson's *The Lottery*: A woman's protest against the traditional lottery drawing that aims to sacrifice people for the sake of a community

8. William Faulkner's *A Rose for Emily*: A mad woman who kills a man and covers up her crime until her death

9. Charles Dickens's *Bleak House* (excerpt): A visit to an orphanage run by Mrs. Jellyby whose preoccupation lies in a project to help African people

Steps of Running the Book Club

The book club was established to serve the members' desire to develop their reading and critical thinking skills. The research team gathered KMUTT engineering students of different years and departments and we met twice a week for six weeks, starting from 2nd of January to 11th of February 2011 at the department of Language Studies, School of Liberal Arts, KMUTT.

Each session lasted between 45 and 70 minutes. The first ten minutes were for comprehension checking i.e. to check if the members understood the plot, the vocabulary and other linguistic features. Comprehension checking was done through researchers' explicit questioning and peer supporting explanations.

Afterwards, the discussions of the meanings of symbols and settings as well as the analysis of characterization (characters' development, conflicts, motivations and actions) were led by the researchers through a series of questions. The research team responded to the members' questions with more questions. Answers were rarely given unless the discussion halted due to the depth of analysis with members having no background in the topics. It is noted that the discussion was conducted in both English and Thai.

Limitation of the study

The results of the analysis may be affected by some of the following problems encountered during the conduct of the research:

The subject's inconsistent participation was mainly caused by the sessions being too close to the end of the semester. The fourth year participants, in particular, were expected to finish their

graduate project which required a lot of time and energy. Some first year participants also claimed that they had a lot of homework and that time management was a big problem for them. We believed that the lack of consistency prevented us from cultivating a higher level of critical thinking skills in them. Also, the lack of consistency resulted in the number of journal entries submitted by the participants.

The members of the book club were pre-selected by the research team. We selected subjects with a medium to high level of proficiency in English as seen from their performance in the courses they took, the grades they received and other experiential exposures to English such as travelling abroad. However, it turned out that they still found certain texts too difficult to follow when the language was unfamiliar to them such as William Faulkner's *A Rose for Emily* in which the stream-of-consciousness style of writing was employed. They also found that some short texts such as an excerpt from Dickens's *Bleak House* were short yet very tense and therefore, required more effort and concentration. This also leads us to another major problem found in Thai students: the lack of reading habit. The subjects admitted that they hardly read any other types of written texts, let alone literature. This corresponds with a research report, written by the Ministry of Education (2009:55), regarding the assessment of Thai educational institutions, that stated that "only 16.3% of Thai students read regularly."

As the findings mainly focused on the written journals and questionnaires, the oral discussions and the in-depth interviews which we believed could yield more effective and fruitful results were not included. It was an issue of technicality as some files were unintelligible to transcribe the sound. However, the research team did not find this exclusion of the sound files problematic as we believed that the discussion during the session could also be biased by a series of questions led by the researchers and the peer influence on an individual's point of view. The subjects' journals, usually written one or two days after the discussion and the interview, conducted after the termination of the book club, should produce more authentic results in this aspect.

Data analysis

The method used to analyse the journal entries is content analysis. The first two researchers read the journals and broke the content into small chunks based on the definitions and key words of six categories of Bloom's taxonomy. After that, the third researcher would read to check if he agreed

upon on the results of the analysis. Negotiation was conducted to recheck if there were some disagreements.

Results

Levels of subjects' critical thinking

To answer RQ 1 *'Based on Bloom's taxonomy, which levels of thinking do students' reflections belong to?'*, thirteen journal entries written for six short stories by four subjects were analysed. Only four out of eleven subjects' journal entries were scrutinised in detail because they reflected several categories of critical thinking, while the rest tended to merely summarise the stories briefly. It should also be noted here that the extracts selected from the subjects' journals are copied verbatim as they were written originally by the subjects including the grammar mistakes and typo mistakes. Table 1 below shows how the students' reflections were grouped and identified into each category of thinking levels. It can be seen that that the subjects' reflections cover almost every aspect except synthesis level. The subjects obviously could reflect their ideas well in knowledge, comprehension, and analysis levels; however, not all subjects could do well in application and evaluation levels.

Table 1: Subjects' thinking levels

Short Story	Subject	Thinking Levels					
		1 Knowledge	2 Comprehension	3 Application	4 Analysis	5 Synthesis	6 Evaluation
A Very Short Story	1	✓	✓	-	-	-	✓
	2	✓	✓	-	✓	-	-
	3	✓	✓		✓	-	✓
	4	✓	✓	-	✓	-	-
A Telephone Call	1	-	-	-	✓	-	-
	2	✓	✓	-	✓	-	✓
	3	✓	✓	-	✓	-	-
Lamb to the Slaughter	1	✓	✓	-	✓	-	✓
	4	✓	✓	-	✓	-	✓
The Overcoat	1	✓	✓	✓	✓	-	✓

The Happy Prince	1	-	✓	✓	✓	-	✓
Bleak House	1	-	-	-	✓	-	-
	4	✓	✓	-	✓	-	-

To support the findings above, here are the extracts of the subjects' reflections in each thinking category.

Category 1: Knowledge (Remembering, memorizing, recognizing, recalling)

Subject 1: The Happy Prince

"Many days passed and Swallow help him as a habitat. The winter came, Swallow decide to died with happy prince."

Subject 2: A Telephone Call

"ในเรื่องนี้เป็นเรื่องที่มีบุคคลคนหนึ่งกำลังรอโทรศัพท์จากชายคนหนึ่งโดยมีอาการพร่ำเพ้อเกี่ยวกับการที่ต้องการให้ชายผู้นั้นโทรมา"

["This is a story of a person who is waiting for a call from one man. The person's mind is occupied with the strong desire for that man to call him/her."]

Subject 3: Lamb to the Slaughter

"เรื่องนี้เริ่มต้นที่ผู้หญิงคนหนึ่งเป็นแม่บ้านที่คอยทำทุกๆอย่างภายในบ้าน เธอนั่งคอยสามีกลับบ้านเมื่อสามีกลับมาก็คอยปรนนิบัติสามีแต่สามีบอกเลิกกับเธอโดยให้เหตุผลว่ามันไม่สะดวกกับการทำงานของเขา"

["The story starts with the portrayal of a housewife who looks after everything in her house. She is waiting for her husband to come home. When her husband reaches home, she takes care of him. However, the husband tells her that he is going to break up with her, giving a reason that it is not convenient for his work."]

In this category, all the subjects were able to summarise the plots of the texts. Their journal entries demonstrated a satisfactory account of recalling the structures of the texts, the sequences of events and the importance of each character and their roles in the stories. In Subject 1's entry, the subject stated the facts of the relationship between the swallow and the prince and the swallow's decision at the end of the story. In Subject 2's entry, the story was clearly summarised and the role of the female character was directly mentioned. Similarly, Subject 4 recalled the story of a woman whose husband was going to leave her despite her complete wifely duty.

Category 2: Comprehension (Interpreting, translating from one medium to another, describing in one's own words)

Subject 1: A Happy Prince

"Before he is the statue, he'd never met sorrow. Surely he never met true happiness."

Subject 2: A Very Short Story

"ในจุดนี้จะเห็นได้ว่าในช่วงเวลานั้นเป็นภาวะสงคราม การที่จะหาความสุขใส่ตัวนั้นคงจะหา ได้ไม่ง่ายนัก....... จึงไม่น่าแปลกใจนักที่ทั้งสองจะเกิดความรู้สึกดีๆและมีความสัมพันธ์กัน มากกว่าพยาบาลและคนไข้"

["During the war, it is hard to find happiness. ….. It is therefore not surprising that they develop a good feeling and have a relationship beyond that of a nurse and a patient."]

Subject 3: A Telephone Call

"เธอเป็นเหมือนคนที่อยู่ในภวังค์ของความรักที่มองไม่เห็นสิ่งต่างๆมองแต่ความรักที่อยู่ ตรงหน้าที่ไม่รู้แม้กระทั่งว่าเขารักเธอจริงหรือไม่ เธอก็ยังเข้าข้างตัวเองว่าเขาต้องมีใจให้เธอบ้าง สักนิดแน่ๆ เพราะเขาเรียกเธอว่าที่รักถึงสองครั้ง.....อาจจะเป็นเพียงคำเรียกธรรมดาที่ไม่ได้คิด อะไรก็ได้ แต่หญิงสาวก็ยังเฝ้ารอ รอคอยโทรศัพท์ต่อไป"

["It is like she is under the spell of love. She is so blinded by love that she cannot see other things. Her mind is occupied with her love for him; she is not really sure whether he loves her. However, she tries to come up with a sign of his love for her. She cites the fact that he calls her "darling" two times….. Anyway, it may be just an empty word and the man may have no feelings for her. However, the woman still keeps on waiting for his call."]

Subject 4: Lamb to the Slaughter

"เข้าใจว่าผู้หญิงคนนี้อาจไม่ค่อยได้พบผู้คนเลยคิดฟุ้งซ่านว่าผู้ชายจะต้องรักตัวเองมาก ส่วนตัว ผู้ชายเองคงเบื่อกับที่ผู้หญิงทำคือคอยปรนนิบัติต่างๆนาๆซ้ำซาก –จนไปมีผู้หญิงอื่นและไม่มี ความรับผิดชอบที่จะทิ้งลูกเมียของตน"

["I think that this woman rarely meets people; she believes that her husband loves her so much. As for the husband, he is bored with this woman who repeatedly takes care of him. So he has another woman and is not responsible for his child and wife."]

For the second level of higher thinking, moving beyond the knowledge level, the subjects in the research exhibit understanding of ideas from the selected short stories provided in the book club by interpreting, translating from one medium to another, and describing in one's own words. Subject 1, for example, after illustrating what was going on in *A Happy Prince*, further interpreted that as the prince was alive and had never faced misery, he had surely never realised the real meaning of happiness. Similarly, instead of simply depicting an account on a couple's affair during

the wartime in *A Very Short Story*, Subject 2 interpreted this kind of relationship as stemming from an individual need to gain happiness as it was rarely found in the wartime. Subject 4 tried to come up with the embedded reasons behind the characters' action in *Lamb to the Slaughter*, postulating that the fact that the male character left his wife was quite comprehensible as he was bored with the constant or even excessive care and attention his wife always paid to him. As for Subject 3, this participant elaborated his/her comprehension by paraphrasing the story in his/her own words and simultaneously interpreted that in *A Telephone Call* the dear name the man called the female protagonist might be just an empty word.

Category 3: Application (Problem solving, applying information to produce some result)

Subject 1: The Happy Prince

"This is the evidence that money can't buy everything. …. (may be it's common for them and in their perspective I think they don't feel bad as in happy prince's perspective.) …… I think he know too that the families that had been helped may have problems again like an unstoppable loop but it's happy when you help someone right?"
"There's mottos in this story teach me new things and give me new perspective of this world."

In this category, only one subject illustrated the ability to apply information (i.e the moral of the story) to his/her real life. According to the subject's journal, it clearly reflected the subject's ability to understand the underlying messages of the text which the story was implying. Despite having a lot of money and power, the prince finally found his true happiness in helping other people. Having understood this, the subject posed a question relating to his/her life (it's happy when you help someone right?) and claimed to have learnt "new things" and "new perspectives of this world."

Category 4: Analysis (Subdividing something to show how it is put together, finding the underlying structure of a communication, identifying motives)

Subject 1: A Telephone Call

"I will call you at five, darling" make me hesitate that what position are they stand together. She seem very blissful after she hear the word "darling". ……….. It is not the word that the couple should be so much happy like this. After that, she wait for the call madly. The evidence has showed by she count "5, 10, 15,…" rather than "1,2,3…" or her feeling can told us obviously. And why is she insult herself.. What's her fault after the man said "I'll call you at five, darling" nothing to nervous at all. Nothing weird and unnatural in this sentence except there are something separate them.

Subject 2: A Telephone Call

"แต่เมื่อพิจารณาในรายละเอียดของเนื้อเรื่องแล้ว มีหลายจุดให้วิเคราะห์อยู่หลายประเด็น เริ่ม

จากในตอนแรกที่อ่านและถ้าเราไม่จินตนาการเนื้อเรื่องไปเอง แต่วิเคราะห์ตามสิ่งที่ผู้เขียน

เขียนมา จะเห็นได้ว่า ตัวละครที่กำลังพร่ำเพ้อในเรื่อง ไม่ได้มีสรรพนาม หรือคำใดๆที่บ่งบอก

เพศของตัวละครนั้น เพราะตัวละครเพียงแทนตัวเองด้วยคำว่า 'I'"

["After considering the details, there are many aspects to analyse. From the first time of reading this story, if we don't use our own imagination but objectively analyse what the author wrote, we can see that there is no pronoun to signify the sex of the person waiting for a call. That person just represents himself/herself with the pronoun 'I'."]

Subject 3: A Very Short Story

ความรู้สึกที่เกิดขึ้นในช่วงนั้นเป็นความรู้สึกที่เหมือนคนสิ้นหวังพยายามหาบางสิ่งบางอย่างมา

เกาะเพื่อยึดเหนี่ยวจิตใจ ไม่ว่าสิ่งนั้นจะเป็นอะไรหรือใครก็ตาม ขอเพียงให้มีเหมือนบางคน

สิ่งของ สถานที่ ให้กลับไป ก็เหมือนจะมีแรงใจที่จะก้าวเดินต่อไปได้"

["People in that time are desperate and look for something to hold on to. If they have something to hold on to (whether it is a person, a thing, or a place), they will have motivation to live on."]

"ต่อมาหลังจบสงครามแล้ว ความรู้สึกนี้ได้หายไป เพราะไม่มีคำว่า "ความตาย" มาคอยบีบคั้น

จิตใจ ทำให้ทั้งสองมีความรู้สึกเปิดกว้าง กล้าที่จะลองสิ่งใหม่ๆ ทำให้พบกับบุคคลต่างๆกันไป

แม้ว่าจะนึกถึงเรื่องที่ผ่านมา แต่อดีตก็คืออดีต มันผ่านไปแล้ว อาจจะเก็บเป็นความทรงจำบ้าง

แต่ไม่นำอดีตมาเป็นตัวกำหนดชีวิตในขณะนั้นกล่าวคือหลังจบสงครามแต่ละคนก็มีทางเดิน

ของแต่ละคน"

["After the war ends, the desire to have something to hold on to is gone because the idea of death does not weigh on their minds. They both open their hearts and try new things. They get to know various people. Although they may think of the past, what is done cannot be undone (the past is the past). It is already gone. They may remember the past but they will not allow the past to determine their present lives. That is, after the war, they both have their own paths."]

Subject 4: Mrs. Jellyby

"ได้ฟังอย่างนั้นก็ค่อนข้างประหลาดใจเพราะตัวเองไม่ค่อยรู้เรื่องประวัติศาสตร์มากนักเรื่องกฎ

ของคนขาวก็ไม่เคยได้ยินมาก่อนแต่ก็เข้าใจว่าผู้เขียนคงอยากสื่อความหมายของสิ่งใหญ่โดยใช้

เพียงการเปรียบเทียบกับตัวละคร เล็กเพียงตัวเดียว"

["After the discussion, I feel amazed because I don't know much about history. I have not heard about the white man's mission before. However, I understand that the author wants to use the single character to represent the bigger idea or concept."]

In this category, all the four subjects were capable of demonstrating their analytical thinking towards the texts they read. They could identify different motives and pinpoint the underlying ideas of the texts with strong and concrete evidence such as the analysis of a lexical item in Subject 1's entry, the observation of the lack of gender signifier in Subject 2's, the circumstantial motives of the two characters in Subject 3's and the writer's deployment of metonymy to criticise the society at large in Subject 4's. Subject 1 analysed the term "darling" which in a normal context would not create such a strong feeling to the audience yet in this particular story, the subject could understand the character's nervousness and insecurity from her reaction to the cordial term and further concluded that "there are something separate them." Reflecting on the same story, Subject 2 pointed out its lack of gender specification in the narrative voice which he/she believed could change the whole tone and understanding of the text such as if the person waiting for the call were a man, it could be a story of another kind (such as a story of a father and son). Subject 3 echoed his/her personal opinion of *A Very Short Story* through the external factor (i.e. war) which had influences upon the characters' decisions and relationships. His/her ability to identify the characters' motives was evidently shown. To our surprise, Subject 4 grasped the writer's technique of metonymy in attacking British colonialism at large.

Category 5: Synthesis (Creating a unique, original product that may be in verbal form or may be in physical form)
None of the subjects have written or reflected on this category.

Category 6: Evaluation (making value decision about issues, resolving controversies or differences of opinions)

Subject 1: Lamb to the Slaughter

 "In my opinion, Mary Malony is a good wife. Her husband should love her much. …… I don't think she is bad because if his husband doesn't broke up with her, she will be looked better by the readers."

Subject 2: The Overcoat

"First impression and think for this story is that Mrs. Bishop is a pitiful girl but it's serve her right because I think she don't have money because of bridge."

Subject 3: *A Very Short Story*

"เป็นเรื่องธรรมดาที่เกิดขึ้นในสงคราม ความรักในช่วงสงครามอาจจะเป็นจริงได้ถ้าทั้งสองอยู่ด้วยกันเสมอและมีความจริงใจต่อกัน"

["It is so common during the war. Love during the war can be real if lovers stay together and are sincere with each other."]

Subject 4: *Lamb to the Slaughter*

"โดยความเห็นส่วนตัวคิดว่าอย่างรัยก็ตามผู้หญิงไม่น่าจะทำให้สามีตายใจโดยการปรนนิบัต เพราะถ้า ผู้หญิงไม่ทำเป็นประจำอยู่แล้วสามีก็น่าจะเห็นและเกิดการสงสัยในการกระทำเหล่านั้นก็เป็นได้"

["In my opinion, the woman should not have taken care of her husband just to make him feel unguarded because if she had not always done it this way, her husband would have recognised her premeditated intention to murder him when she tried to please him."]

The highest level of higher thinking according to Bloom's taxonomy, evaluation, was reflected in the journal entries of the three subjects. They could present and defend their opinions by making judgments about characters portrayed in the short stories and subject matters revolving around those stories. To illustrate, subject 1 pondered over the female protagonist's action in *Lamb to the Slaughter* and reached the conclusion that despite her murder of her husband, she was not really a "bad" person, arguing that when the fact that her husband was trying to leave her was taken into consideration, her action was quite comprehensible. Different from Subject 1, Subject 4 made the decision about the controversial topic in *Lamb to the Slaughter* proposing that the wife was to blame as she should not have always taken care of her husband to make him feel unguarded and become unaware of the imminent threat leading to his own death. The ability to make judgments was also manifested in Subject 3's journal which maintained that the subject matter of a transient affair of a couple in *A Very Short Story* was not extraordinary whereas many other readers found the story rather contradicting to their expectation of a happy ending which is a common practice in a traditional narrative.

Developing students' critical thinking skills

To answer RQ2, *'How will the reading of short stories develop the students' critical thinking skills?'*, the findings of the book club running show that teachers' perspectives, interviews, and questionnaires can prompt and solidify the development of students' critical thinking. After the book club sessions were over, the members were individually called in for a questionnaire completion and an in-depth interview. The results were classified into three main themes as shown below:

From the researchers' personal experiences of teaching at a technology institution, we have found that in order to truly promote our students' critical thinking, we need to venture out of the "comfort zone" (relying on science-oriented texts) and be more willing to deploy literary texts in our teaching despite the literary genre being out of context for our students' concentration. In using

short stories to enhance the development, we discovered that leading questions in each session's discussion were the most significant component to stimulate not only students' curiosity but also their enthusiasm in thinking more profoundly. There were seven stages of questionings conducted respectively in the book club. They were:

a. Questions regarding overall comprehension: What is the story about? What is the sequence of events in the story?

b. Questions regarding content and specific details: What is the significance of different elements of each story: exposure, conflict, denouement and ending?

c. Questions regarding characterisation: How are the characters in a story related? How do they interact? What are the motivations of their actions? How do they develop as characters?

d. Questions regarding writing techniques: How do certain particular or taken-for-granted words contribute to or change the course of the meaning of the text? What do metaphors, similes or understatements signify and how do they affect your understanding?

e. Questions regarding meanings beyond text: What is the tone of the story? What do you think is the writer's intention?

f. Questions regarding application: How does the story relate to your own experience? What is the moral of the story?

g. Questions regarding evaluation: Do you like the story? Do you agree with the writer? Would you do the same if you were the character? Why or why not?

The seven stages of questions were created to build up the subjects' critical thinking in a more efficient way. Question A is meant to check the subjects' comprehension of the texts they read. Question B, C, and D encourage them to examine and analyse certain events, characters and settings more closely as well as to look carefully for symbols and signs which may have greater significance to the texts. After going through the previous questions, the researchers used Question E to let the subjects make informed critical decisions about the tone and the writer's intention. By this stage, the subjects already had their arguments to support their alternatives. The last two questions, F and G, give them an opportunity to interact directly with the texts. The subjects got to apply what the stories showed them to their real world and evaluate them in a more reliable and reasonable way.

Most of the subjects said that they learned from other students. That is, they had chances to listen to their peers' comments and opinions. They learned that people could think differently and there could be different angles in any story. Furthermore, they learned to think contemplatively and at the same time learn to appreciate the differences in thoughts and opinions of other members. Most importantly, the subjects came to realise that literary texts, like life itself, yield more than one conclusion or no conclusion at all, as expressed in ten (out of eleven) questionnaires.

As for self-reflection, one subject quoted a popular saying "read fictional characters and look at oneself in the mirror." They agreed that the characters they read about had the same kind of experiences as any other human beings. The chosen stories feature characters who share the same stories, feelings, dilemmas, problems and struggles to cope with their lives as all of us. They are driven by different forces such as their individualistic needs, social expectations as well as their positions in the society dictated by gender and class. Having stood in the characters' shoes, the subjects reflected upon their lives and the conditions attached to them. For example, one subject compared the characters' relationship in *Lamb to the Slaughter* to his/her own and questioned him/herself whether he/she would kill the man or he/she would cope with his/her problem in a different way.

Most of the students revealed that when they read short stories, they found that they read them differently from other types of texts. That is, they had to read and interpret the story. They could not ignore words and they had to pay attention to details in the stories. They could not just skim through the text to grasp the main ideas. According to one subject, he/she asserted that although the literary language was difficult, it was worth it because it was challenging and thought-provoking. He/she further elaborated that every single word or even a pause between each dialogue could mean a lot and could represent a far deeper idea than it might appear. In this respect, the research team agrees that the subjects have developed an awareness of "reading between the lines," a necessary tool for the development of critical thinking skills.

Discussion and Conclusion

Literature develops critical thinking and self-reflection

The analysis of the reflective journals shows different levels of critical thinking skills in accordance with Bloom's descriptions of taxonomy. The findings demonstrate that all the four subjects can

successfully reach the first category (knowledge). They could easily recall the synopsis and remember the characters and their functions in the story. In the second category (comprehension), all four subjects were able to express their interpretive understanding of the story such as the characters' feelings and internal conflicts. In the third category, however, there is only one subject that conveyed the notion of application. His/her journal reflects an attempt to relate the story to his/her own experiences in the real world. In the fourth category (analysis), all four subjects exhibited the ability to understand the underlying structure of the text and identify motives. All subjects could identify different elements in the story that help create an effect to the reader such as the fourth subject's journal that mentions the deployment of Mrs. Jellyby as a representative of the larger establishment. In the fifth category, none of the subjects achieved the definition of synthesis. This is explicable as the way the book club was conducted did not leave room for the synthesis process. We did not have a plan to assign them to do the activity which requires synthesis. The last category, evaluation, appeared in three subjects. They made informed choices about what was right and what was wrong.

The self-reflection stage leads the subjects to the development of critical thinking skills. The subjects were at first startled by the inconclusive nature of literary work. Different from science-related passages, short stories as well as other genres of literature bear no absolute ultimatum nor could one final conclusion be attained. The members, who are engineering students, found this kind of indefinite ending very hard to understand. To initiate the subjects' critical thinking skills, the research team applied Fish and Holland's reception theory. We explicated that reading is an interaction between the text and the reader; therefore, each reader has his/her own expectations stemming from his/her existing background knowledge. Like life itself, there cannot be one right way to read and understand a book and its characters. The subjects were then trained to make an informed choice with convincing, logical arguments and well-supported evidence found in the texts. After the first session, the subjects started to get used to the nature of reading short stories and that allowed the discussion to be smoother.

Literature promotes reading enjoyment

Although developing the subjects' reading skills was not primarily our research goal, the impact on enjoyment of reading short stories at the book club was far too great to be ignored. Therefore, the discussion on how reading short stories could create a reading habit and equip readers with a new dimension of 'refined' vocabulary and expressions is briefly included at this stage.

All the members mutually agreed that reading short stories brought a lot of benefits to their reading knowledge and gave them pleasure. All the participants were excited and glad that they had been introduced to the world of extensive reading. They had opportunities to read well-known short stories which they normally would not choose to read. They exposed themselves to new words and language structures because all members of the book club agreed that they acquired a lot of new 'refined' vocabulary and expressions through the activity. They explained that after having been put outside their reading comfort zone (i.e. science/technology-related passages), they had to struggle to understand the chosen texts because of their lack of exposure, training and familiarity. However, after the first ten minutes of each session, they felt more confident and satisfied with the new vocabulary and expression they learnt. Some included the new words in their journal writings, showing their attempt to put the new words into use. This inspires them to find other short stories to read in the future. All the participants were excited and glad that they had been introduced to the world of extensive reading.

Literature needs a bigger space in English classroom teaching

Two big questions regarding this piece of research have arisen in the process of analysing the data and they are worth considering:

    1. *"Why should only four students be included in the analysis and the rest left out?"*

    2. *"Does literature truly promote critical thinking when the number of subjects who reflected with several categories of thinking seems very little?"*

The answers are not straightforward yet explanations can be offered. The four students who were selected demonstrated a variety of their arguments in the written work whereas the rest seemed to enjoy retelling the synopsis in their journals. The research team decided to include the four subjects and present their works in this paper in order to show that literature can certainly make a useful tool to promote and develop critical thinking. We did not intend to disregard the rest of the participants whose development of thinking skills fell into the first two categories: knowledge and comprehension. The seven participants were able to summarise the stories and put them in their own words with further elaboration of certain interesting points. Surely, their development was explicit enough, considering their engineering backgrounds and their scarce exposure to literary texts. However, the research team felt that the data presented in this paper should illustrate what a reader could potentially achieve from reading short stories and the four subjects make quite a good example. Therefore, to answer Question 2, the research team believes that literature can be very beneficial for students' development of critical thinking whether they are

arts or science students. The number of subjects presented merely exemplifies the different categories of thinking a reader could accomplish, not a discouraging sign of failure.

We believe that English teachers in Thailand should be more willing to include literature in their English classrooms. The book club was run for five weeks and the subjects showed their high potential in thinking more deeply and reasonably. The most important aim of the club was for the subjects to 'start thinking' and not be afraid to 'share' their thoughts. In this respect, the research team found the data of all eleven subjects' journal entries very satisfactory. It was a good start for KMUTT. If English teachers make use of literature in their English classrooms in the long run, the results should be very interesting to see.

Recommendations for future research

From the problems previously stated in the methodology section, the research team became aware of the possible causes of the problems and different ways to improve the book club in order to enhance the development of critical thinking skills. First of all, the book club should begin early in the semester so that the prospective subjects will not feel that it is a burden to their full-time studies. In addition, due to the limitation in terms of time permitted for each session, a variety of texts should be used such as poems, short plays and pictures. Furthermore, in order to accommodate the right level of difficulty, there should be a more concrete way to evaluate the subjects' reading abilities and their vocabulary knowledge. Pre-tests may be necessary. Also, questionnaires should be distributed at two different stages: before and after the session. This will help the research team detect the development of critical thinking skills in a more tangible way. Finally, recording the oral discussion should be done to check the consistency of the subjects' opinions as their viewpoints can be influenced by external factors such as leading questions and peer arguments. This voice record, along with written evidence, will certainly produce a more reliable result.

References

สำนักงานเลขาธิการสภาการศึกษา กระทรวงศึกษาธิการ (2551). *รายงานการวิจัยการวิเคราะห์*
    กระบวนการพัฒนาการศึกษาของโรงเรียนภายหลังการประเมินภายนอกรอบแรก. กรุงเทพ:
    โรงพิมพ์แห่งจุฬาลงกรณ์มหาวิทยาลัย.

(Office of the Education Council, Ministry of Education (2008). *Analysis of the educational*
    development process conducted in schools after the first assessment. Bangkok:
    Chulalongkorn University Press.)

Association of American Colleges and Universities (2004). *Liberal education outcomes: A preliminary report on student achievement in college*. Washington, DC: Association of American Colleges and Universities.

Bensley, D. A. (1998). *Critical thinking in psychology*. London: Brooks/Cole.

Bloom, B. S., Engelhart, E. J., Furst, W. H. Hill, & Krathwohl, D. R. (1956). Taxonomy of educational objectives. The classification of educational goals. *Handbook I: Cognitive domain.* New York: David McKay.

Carr, K. S. (1988). How can we teach critical thinking? *Childhood Education*, *65*(2), 69-73.

Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities. In J. Baron, & R. Sternberg (Eds.), *Teaching thinking skills: Theory and practice*. New York: W. H. Freeman.

Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*. Millbrae, CA: California Academic Press.

Fish, S. (1980). *Is there a text in this class?: The authority of interpretive communities*. Cambridge: Harvard University Press.

Giancarlo, C. A., & Facione, P. A. (2001). A look across four years at the disposition toward critical thinking among undergraduate students. *The Journal of General Education*, *50*(1), 29-55.

Gokhale, Anuradha A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology Education*, 7(1). Retrieved from http://russianschool.com/documents/ Collaborative_Learning_Enhances_Critical_Thinking%5B1%5D.pdf

Halpern, D. F. (1989). The disappearance of cognitive gender differences: What you see depends on where you look. *American Psychologist,* 44, 1156-1158.

Holland, N. (1975). *Five readers reading*. New Haven: Yale University Press.

Khuankaew, S. (2010). *Literary texts to enhance EFL university students' critical writing* (Unpublished doctoral dissertation). Srinakharinwirot University, Thailand.

Langer, J. A., & Applebee, A. N. (1987). *How writing shapes thinking: A study of teaching and learning*. Urbana, IL: National Council of Teachers of English.

Mckinnon, J. W., & Renner, J. W. (1971). Are colleges concerned with intellectual development?. *American Journal of Physics*, *39*, 1047-1052.

Neilsen, A. R. (1989). *Critical thinking and reading*. Bloomington, ERIC Clearinghouse on Reading/Communication Skills.

Orlich, D. C., Harder, R. J., Callhan, R. C., & Gibson, H. W. (1998). *Teaching strategies: A guide to better instruction*. New York: Houghton Mifflin.

Riecken, T. J., & Miller, M. R. (1990). Introduce children to problem solving and decision making by using children's literature. *Social Studies*, *81*(2): 59-64.

Somers, A.B., & Worthington, J.E. (1979). *Response guides for teaching children's books*. Urbana, IL: National Council of Teachers of English.

Sweet, A. P. (1993). *Transforming ideas for teaching and learning to read*. Washington, DC: Office of Educational Research and Improvement.

Tierney, R. J., & Pearson, P. D. (1983). Toward a composing model of reading. *Language Arts*, *60*(5), 568-80.

Tung, C, & Chang, S. (2009). Developing critical thinking through literature reading. *Feng Chia Journal of Humanities and Social Sciences*, *19*, 287-317.

Wilson, M. (1988). Critical thinking: Repackaging or revolution?. *Language Arts*, *65*(6), 543-51.

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