CHAPTER 2

THEORETICAL BACKGROUND

A. Critical Thinking in language classrooms

The notion of critical thinking (CT) has been widely used in educational contexts, including in language learning. It has been considered as one of skills in 21st century. Languages cannot be taught without critical thinking elements such as investigation and problem solving in using target language (Hughes, 2014). Relying on the use of language as a tool does not guarantee to assist students to become proficient in language. Students need to think critically in using target language (Kabilan, 2000, cited in Liaw, 2007).

Definitions of CT have been emerged from cognitive psychological approach. The term is defined as "mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts" (Sternberg, 1986, cited in Lai, 2011). In addition, based on educational approach, CT is frequently defined as thinking process. In this case, Bloom's taxonomy is included in this study. The taxonomy is one of the most cited sources for educational context (Lai, 2011). In thinking process, the taxonomy includes cognitive knowledge consisting of six levels, namely knowledge, comprehension, application, analysis, synthesis, and evaluation (Forehand, 2010). Knowledge is at the bottom and evaluation is at the top hierarchically in Bloom's taxonomy. The three highest levels called analysis, synthesis, and evaluation are frequently said

to represent critical thinking (Kennedy et al, 1991, cited in Lai, 2011). Nevertheless, significant change occurs from the object terms such as knowledge, comprehension, application, analysis, synthesis, and evaluation into action words or verb and gerund form to label the categories. The new terms as follows, remembering, understanding, applying, analyzing, evaluating, and creating (Forehand, 2010). The terminology was changed because those words describe cognitive processes that thinkers encounter. The revised taxonomy was expected to students to learn as a result of instruction (Krathwohl, 2002).

Critical thinking skills are related to higher order thinking skill that can enhance language learning skill facilitating to obtain higher levels of language proficiency (Liaw, 2007). It is reflected in the choice of words and tone taking on to both linguistic and personal preferences. Being critical is signified by having sufficient language fluency or even awareness of the contextuality (Mehta & Al-Mahrouqi, 2014).

Bloom's taxonomy is desirable to be integrated in learning situation. This taxonomy can be initial point to expose students' critical thinking. Harsh and naïve criticism can be diminished in minimum with Bloom's taxonomy (Mambu, 2010).

In CT guidance, there are some standards of competence to be critical thinkers as representation. There is perceptive about relation among Critical Thinking, Learning, and Education. This notion reveals a concept that learning and critical thinking are connected each other in CT

disposition. The conception is followed by education. Being educated persons functions in a different way as education alters students' minds (Paul & Elder, 2005).

Additionally, there are competencies focusing on intellectual traits, virtues, or disposition to be revealed as representation of students' critical thinking skills. The intellectual traits in the CT competencies as follows: intellectual courage, intellectual integrity, intellectual perseverance, confidence in reason, intellectual autonomy, and so forth (Paul & Elder, 2005).

B. **The role of posters in supporting the students' critical thinking**

Posters refer to "a square or rectangular of paper or hardboard containing information visually displayed in meaningful and orderly way" (Chabeli, 2002, p. 11). Osa and Musser, (2004) suggest that education should include poster as part of instructional media since it effectively illustrates a certain skill. This is proven based on students' perception that posters can facilitate students' critical thinking (Chabeli, 2002).

Visual learning has been connected with critical thinking skills. It is because the visual learning made students read visually which makes them think and question leading them into critical thinking as a previous study conducted a program called "creativity time" by producing drawings or signs (Sarmiento & Stahl, 2008). This is relevant with occurrence which students were engaged in learning as previous study Lirola conducted, there were many teachers employ multimodal practice in their teaching (Knox, 2008, cited in Lirola, 2016).

C. Multimodal discourse analysis on posters

In this research, multimodal discourse analysis was used as fundamental tenet. Multimodal analysis is also referred as multimodality (O'halloran, 2011). According to Kress and Van Leeuwen (2006), multimodality is when a text communicates through different modes of combinations. Posters are one of multimodal texts consisting of different modes, visual images and written texts. These different elements indicate communicative functions consisting purpose in a discourse.

In addition, posters are multimodal texts containing discourse since obviously posters have semiotic modes such as images and words containing particular set of ideas. This justifies within multimodal discourse. Each text, including posters, has their own meanings consisting of discourse. Machin (2013) stated that discourse is communicated through different kinds of semiotic resources, different modes, and realised through different genres. Furthermore, Kahari (2013) affirmed that posters contain meaning constructed in different semiotic system in which language and images interact.

English instructional media implemented were educational posters as a multimodal text to support teaching-learning practice. Posters can be evaluating method as value of process or product of the process that information obtained through assessment (Chabeli, 2002). Since posters consist of semiotic modal resources or multimodality, they can contribute in construction of meanings and perspectives. The multimodality to the implication towards English language learning, for example, the need of

multimodal texts has been included in English curricula as school-based assessment (Chan, Chia, & Choo, 2017). The framework for assessment of multimodal texts aligned with Bloom's taxonomy were used in this study to represent students' critical thinking skills with 3 components, namely text analysis, author analysis, and context analysis. Text analysis deals with content of the text. Author analysis deals with construction of the text. Context analysis deals with identity representation.

Furthermore, this instructional medium conveys interactive meanings related to relationship between viewers and participants in the images. Visual communication has resources that constitutes or maintains interaction. In particular, a number of visual elements have been categorized as interactive or interactional meaning depending on their communicative functions. The fundamental aspect in this research is the relation between the sets of participants involved in the viewing of visual communication. Images and written text on educational posters are coded as followed: contact, social distance, and attitude. Typically, participants may not physically be there. Based on the analysis framework, this study merely adopts three interrelated systems of visual grammar, namely contact, social distance, and attitude (Kress & Van Leeuwen, 2006).

1. Contact

Concerning with the ways of images depicted whether people directly or indirectly look at the viewer (Kress & Van Leuwen, 2006). In

the first case, there is degree of engagement in the text that the person in the picture directly looks at the viewer as demands of the attention of the viewer (Kress & Van Leeuwen, 2006).
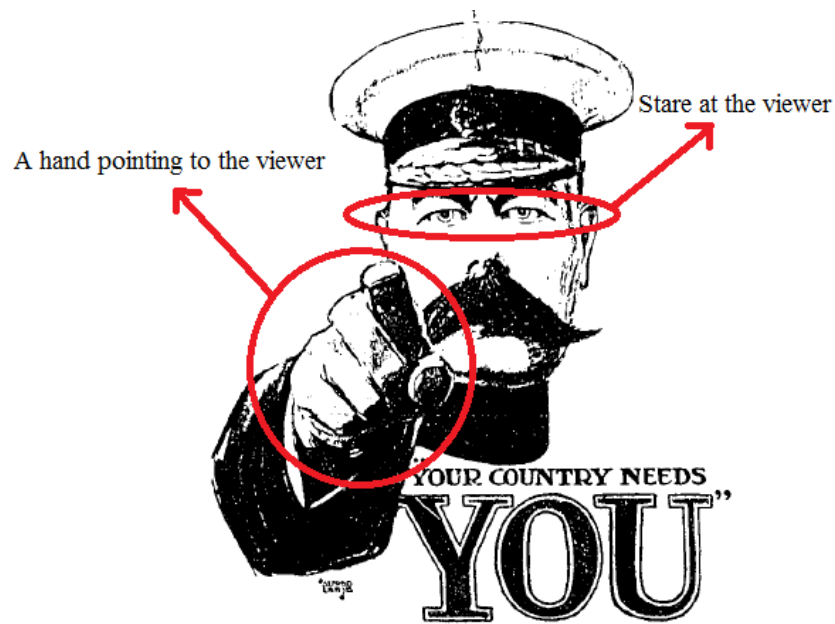
(Fig. 2.1 Selecting poster (Alfred Leete, 1914) (Imperial War Museum) (Kress & Van Leeuwen, 2006, p.117)

From the picture above, the creator uses the image indicating a demand since the character of the image stares at the viewer. With a hand pointing to the viewer indicates acknowledgement of viewer and highlight the word 'you'.
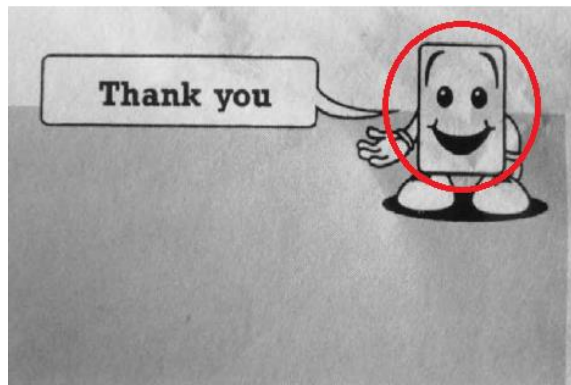
(Fig .2.2 ATM screen) (Kress & Van Leeuwen, 2006, p.119)

The object of the picture is quasi-human participant, a character looks like a human, looking at directly to the viewer, the creature like Automated Teller Machine represents demanding relation to the viewer with a smiling face.

In contrast, object of other picture addresses viewer indirectly or the viewer is not object, but subject of the look, and the represented participant is the object of the viewer's

(Fig.2.3. Oodgeroo Noonuccal (Oakley et al., 1985 cited in Kress & Van Leeuwen, 2006, p.120)

From the picture, no contact is made because the object of picture stares blankly and the viewer is like invisible. The person is depicted as object of contemplation indicating offers as information.

2. Social Distance

Social distance is related to social relation that may be considered as intimates, friends, colleagues, acquaintances, total strangers, or even aliens. These social relations are signified by size of frame whether very close-up shots, close-up shots, medium shots, and long or distance shots. Size of frame is used to determine how much social distance between viewer and the represented participant (Kress & Van Leuwen, 2006).

FRAME SIZE	CHARACTERISTICS	SOCIAL RELATION
very close up	less than head and shoulders of subject	intimate
close shot	head and shoulders of subject	friendly or personal
medium close	cuts off subject approximately at waist	social or ' one of us'
medium shot	cuts off subject approximately at knee level	'familiar' social
medium long	shows full figure	general social
long shot	human figure fills half image height	public, largely impersonal
very long shot	and any thing beyond (wider) than half height	little or no social connection

Table 2.1 *Size of Frame and Social Distance*

3. Attitude

Kress and Van Leeuwen (2006) point out that visual resource can be used to express an attitude or 'point of view' towards the represented participants in the visual communication. Kress and Van Leeuwen classify subjective visual project a clear distinction between the represented world, which requires most of the viewer's attention, and the frame or physical

space which the image is viewed. In contrast, objective visuals do not take account on viewer. Subjective perspective of visual is divided into degrees of involvement and degrees of power. Both the categories of involvement and power are realised through various choices of visual horizontal and vertical angle respectively. Horizontal angle reflects degree of involvement. Vertical angle expresses degree of power to the viewer or represented participants.

D. Assessing students' multimodal texts

Multimodal framework for assessment allocates researcher to grasp the meta-language of texts aligned with Bloom's taxonomy so that students' critical thinking skills can be represented. It proposes assessment that makes use of multimodal texts. Essentially, the proposed framework assesses students' multimodal text e.g. educational posters. Based on the framework, this study adopts three components namely text analysis, author analysis, and context analysis (Chan, Chia, & Choo, 2017).
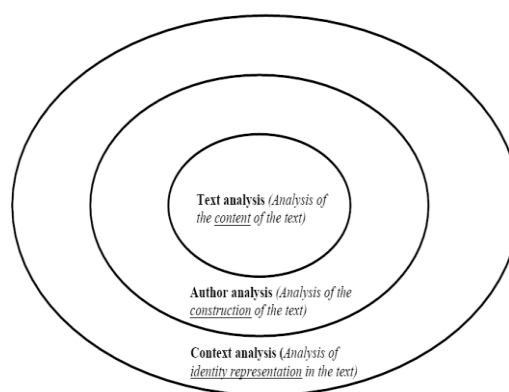

Fig.2.4. Framework for assessing multimodal text

1. **Text Analysis**

Text analysis focuses on the structure of the text. This element is divided into five descriptions, Theme or Subject, Obvious Content, Inferred Content, Connected Content, and Connected-Inferred Content. The analysis consists of remembering level, understanding level, applying level, and analyzing level (Chan, Chia & Choo, 2017).

The theme or subject part provides a basic understanding of the subject matter. This consists of bloom's taxonomy of remembering level. Typically, the sample question to describe remembering level is "what is the main idea of poster? The answer is usually found in the text itself. This type of question is process of recognizing contexts, situations, and people (Chan, Chia & Choo, 2017).

Obvious content is about exceeding general understanding. It is still consisting of remembering level in bloom's taxonomy. The question is considered to identify one or two keywords in the text. It is a process of identifying different contexts, situations, and people (Chan, Chia, & Choo, 2017).

Inferred content endows with connotative meaning of particular words. The question is merely "why" intended to find out the reason of a particular statement or words made by creator of poster. This type of question is level 2 of bloom's taxonomy, understanding stage. It is process of interpreting information from the text (Chan, Chia & Choo, 2017).

Connected Content is about locating ideas from various parts of the text. This part aims to find information from different parts of the text associated located ideas. It denotes understanding level of bloom's taxonomy (Chan, Chia, & Choo, 2017).

Connected-Inferred Content is about emerging ideas and intentions. This part shows evidence to be interpreted by examining verbal and linguistic signs in the text. In this case, words and images depicted in the posters are interpreted. Both elements are signified with question "how are words related to images?" The type of question represents bloom's taxonomy in level 3 or 4, applying or analyzing (Chan, Chia, & Choo, 2017).

The initial analysis focuses on the multiple representations used in the five descriptions as mentioned above. Each representation is analyzed as a whole with Bloom's taxonomy integrated with multimodal analysis. Each description is segmented. Theme or Subject, Obvious content, Inferred content, and Connected content focus on the language text. Connected-inferred content focuses on verbal and linguistic signs in the text. This analysis provides insight into content of the text (Chan,Chia, & Choo, 2017).

2. **Author Analysis**

Author analysis focuses on the intention or the purpose of poster creator. There are identification of explicit claim, identification of implicit

claim, and analysis of arguments. The analysis reveals CT skills up to analyzing and evaluating levels (Chan, Chia & Choo, 2017).

Identification of explicit claim obviously gains information what is the intention or the purpose of the text through explicit claim. The sample of question is "what is the poster claiming about education?" The type of question is in level 1 and 4, knowledge and analysis based on bloom's taxonomy. It is process of identifying observable clues from the text to facade intention (Chan, Chia, & Choo, 2017).

Identification of implicit claim gets information through the layout, color, setting, and words association in the text. To get information, the posters are analyzed in the language and design of the text through that creators are highlighting. It is the process of examining underlying in the text in level 1 and 4, knowledge and analysis based on bloom's taxonomy (Chan, Chia, & Choo, 2017)

Analysis of arguments occurs in the following stages, namely assumptions and speculations, generalization, and logical fallacy. First, assumptions and speculations occur when points are made with insufficient supporting evidence. Next, generalization happens when people or situations are classified into general categories. Last, logical fallacy follows when there is no logical link between evidence and the point. It can be formulated by a sample question as followed, "why you think this claim might be problematic?" It is process of making

perspectives based on the text. It consists of bloom's taxonomy in level 4 and 6, analysis and evaluation (Chan,Chia, & Choo, 2017).

The author analysis focuses on the creator's intention and purpose. Each description consists of construction of the text represented. Identification of explicit claim deals with recognizing communicative intentions. The explicit claim revealed is recognized as the substance of what is meant. This description leads to the consciousness of creator's intention. The identification of implicit claim is manifested in subtle ways through visual elements. In the following levels called assumptions and speculations, generalization, and logical fallacy are stated and justified through reasoning (Chan, Chia, & Choo, 2017).

3. Context Analysis

Context analysis focuses on representation, how particular groups in the text are represented. There are analysis of audience representation and analysis of thematic representation. Likewise author analysis, context analysis reveals CT skills in analyzing and evaluating levels but focuses extendedly in evaluating level because of examining perspectives from the text (Chan, Chia, & Choo, 2017).

In the analysis of audience representation, posters are examined in the following area, focus, exclusion, and voice. Possible question to find the information from the text is "what are ideals associated with the targeted audience in the text and which group has been excluded from participation in the text?" The type of questions contain level 4 and 6,

analysis and evaluation. It is the process of examining perspectives focusing on the audience (Chan, Chia & Choo, 2017).

Analysis of thematic representation focuses on investigation of themes depicted in the text in three areas, to be exact association, possible effects, alternative perspective. In association, the sample question is "what values in this poster associated with?" In possible effect, "what are positive effects and negative effects of this poster may have on audience who look at it?" In alternative perspective, the sample question is "what other information should be excluded and included in the text?" It is process of combining thoughts and ideas and forming new ideas (Chan, Chia, & Choo, 2017).

E. **Critical Thinking Elements**

This section gives description to researcher about students' critical thinking skills. The modified critical thinking elements are presented in table below that gives the details of the modified critical thinking elements used for the study. The description determines whether students are critical or non-critical (Rani, 2016).

Critical	Non-Critical
Posing topic focused questions (open-ended)	Posing non-topic focused close-ended questions
Discussing about important points / issues	Using unimportant points / irrelevant issues
Gaining new information / ideas	Repeating ideas

Critical	Non-Critical
Using background knowledge during the discussion	Using the knowledge gained from the text
Using personal experience to support their arguments	Using irrelevant examples
Relating the similar situations	Relating to irrelevant situations
Discussing about the information that is not given in the material and it is relevant (thinking out of box)	Discussing about the information given in the text
Providing valid solutions/ justification to the argument raised	Answering questions without any justification
Using logical reasoning to support their arguments	Using logical reasoning to support their arguments
Question the author / the facts given in the text	Being unable to question the facts / invalid questions
Producing clear and unambiguous statements	Using confused statements
Reflecting on the issues connected to the world	Reflecting on the issues limited to the text
Applying, criticizing, and comparing the knowledge learned in similar situations in the reflections	Reflecting without applying/ criticizing/ comparing the knowledge learned

Table 2.2 *Critical Thinking Elements*

Critical Thinking Elements described on the table above is intended to determine whether students are critical thinkers or non-critical thinkers. Students who are critical thinkers, they pose topic focused questions consisting of open-ended questions. Moreover, the contents students discussed are important issues or revealing important points. In addition, students can gain new information or ideas related to the issues or points they discussed. During the discussion, students use their background knowledge and personal experience to support the arguments. Even, students can relate into similar situations and think out of the box. Besides, the contents students created generate questions about the facts given in the text. From statements, they created clear and unambiguous. Furthermore, students can reflect on the issues connected to the world. Eventually, in their reflections, it can be applied, criticized, and compared the knowledge learned in similar situations (Rani, 2016).

On the other hand, students who are non-critical thinkers pose non-focused topic consisting of close-ended questions. Additionally, points and issues are trivial and irrelevant to be discussed. Even ideas they deliver are repetitive. Further, students merely use knowledge gained from the text and use irrelevant examples. Also, students tend to relate into irrelevant situations. Moreover, students only discussed about the information given in the text and answer questions without justification. Furthermore, students use illogical reasoning, and they are not able to question the facts. In their statements, they use confused claims. In time, students reflect on the issues limited to the text

without applying, criticizing, or comparing the knowledge learned in their reflections (Rani, 2016).