STIMULATING STUDENTS' HOTS THROUGH "STRIKING" DIGITAL MEDIA IN EFL CLASSROOM

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Abstract. *It is believed that there will always be a relationship between writing and critical thinking/HOTS. Writing is considered a process of doing critical thinking and a product that communicates the result of critical thinking. Therefore, this paper has two primary aims: first, to investigate the importance of writing and HOTS in foreign language learning; and second, to explore how those two issues can be accommodated through a single computer-assisted learning media, namely STRIKING (Strengthening Critical Thinking in Writing). The media will be in the form of a digital study package which is expected to give some benefits such as facilitating learner-centered learning, allowing the users to organize, analyze, interpret, and evaluate their own work, and getting the learners to be used to control their own learning.*

Keywords: *HOTS, STRIKING digital media, writing,*

A. INTRODUCTION

Education should prepare the students to be accustomed to using their 21st skills. These skills are very vital for the students in preparing their future carrier, which one of them is in communication skill. For international communication, English is used in various fields such as in science, technology, education, business, and tourism. Therefore, it is necessary to be proficient in English in order to be able to communicate with people from different countries, since English is considered as the world's lingua franca. To be proficient in English, foreign language learners should master all four skills: writing, reading, listening, and speaking. Among those four skills, this paper will be focusing more on writing skills because of

several reasons. First, writing is one of the essential skills which should be mastered by learners since writing is used as one of the requirement, for being a success in the academic and occupational area (National Commission on Writing, 2004). Second, in the 21st century, people should have what Wagner (2008: 14) called "seven survival skills", two of them are having written communication skills and critical thinking skill. Hence, learners need to have adequate writing skill, since it is not only used in the classroom, but also learners' real life, such as in the citizenship, educational world, and business. Meanwhile, the facts show that the number of published books written by Indonesian authors is still relatively small.

As reported in *Kompas* (2012), it is stated that the books published in Indonesia are more or less (18.000/year), much lower than those produced in Japan (40.000/year), India (60.000/year), and China (140.000/year). It shows that writing skills cannot be neglected, and producing texts is not a simple activity to do. Thus, improving writing competence becomes a demand to be accomplished by foreign language learners. Furthermore, to gain writing competence, second language learners should have critical thinking skills. According to Sachs (2004), the activity of writing is not only considered as the process of critical thinking but, automatically, it can also be classified as a product that clearly communicates the writer's way of thinking critically. From those issues, critical thinking skills will be necessary for Indonesian people since it will help them solve problems, analyze problems, evaluate problems and creative solutions. Those aspects are usually called as Higher Order Thinking Skills (henceforth, HOTS) (Krathwohl, 2002).

To accommodate both writing skills and HOTS in the teaching process, teachers need to utilize technology. The finding of research conducted by National Writing Project (2013), shows that digital technologies are forming the learners' various

ways of writing. Those technologies are beneficial for teaching writing to middle and high school students since those media are considered to be "generally facilitating teens' expression and creativity, broadening the audience for their written material and encouraging teens to write more often in more formats than may have been the case in prior generations" (National Writing Project 2013: 2). Besides facilitating writing activities, technology-based media can be used to enable learners to gain all levels in HOTS (Knezek, Simms, & Hopson, 2001). Adding to these concerns, Ali (2012), concluded in his research that ICT is one of the practical tools to promote HOTS for adolescent learners. Therefore, the teaching process should use technology-based media to make learners can enhance their HOTS. That is why using technology-based media to teach writing should accommodate learners to implement critical thinking. The media is then called "STRIKING", which is the abbreviation of "strengthening critical thinking in writing".

B. THEORETICAL REVIEW

Writing

English is one of the foreign languages taught in junior and senior high school students. In learning English, students should be able to communicate both spoken and written language. Cutting (2011) distinguishes those two terms by explaining that spoken language is the process of language that has been constructed in human's mind whereas written language is the product of language that has been revised and polished. According to Brown (2001), a certain level of specialized writing skills may result in the outcome of the student's written language. Writing is considered as the productive skill used to transfer the knowledge by making signs, forming letters and words, and joining them into a series of sentences that link together (Pulverness et al. in Utami, 2014). It can be inferred that the students

achievement toward teaching-learning process can be manifested in their piece of writing works. Thus, teaching and learning English should be a focus on the writing skill since it becomes one of the crucial things in students' English learning process, and in their daily life as a whole.

Learning to write is not only putting words on paper but also how the writer shares his or her idea in papers by considering proper words, grammar, cohesion, and content of the text. Writing is a process where writers try to think, reflect, revise, and review their texts. Writing is one medium to express ideas and information. A statement revealed by Columbia University Graduate School of Arts & Sciences, (n.d.), implies that writing is not only used to communicate but also to stimulate the writers to reflect, think about, and analyze an object. It means writing is a complex skill that needs to be proficient in more than one area, such as knowledge, experience, skills, and cognitive demands of the task. Another expert Vue, et,al., (2015) claim that writing skill is required the writer to have critical thinking. Generally speaking, a well-designed writing teaching and learning may stimulate students' critical thinking. Sometimes the term 'critical thinking' and 'Higher Order Thinking Skills (henceforth, HOTS)' are interchangeably used. HOTS is the three highest levels of Bloom's Taxonomy, which is originally developed in 1956.

Bloom's Taxonomy

Benjamin Bloom, along with his group, developed the taxonomy of thinking levels in 1956. This taxonomy is then well known as Bloom's Taxonomy. It is actually a framework which classifies educational goals into different forms and levels of learning which is arranged hierarchically. Those levels should be mastered in the correct order from less to more complicated ones. In other words, one level should be mastered before the next level can be reached. Those levels

are knowledge, comprehension, application, analysis, synthesis, evaluation. The implementation of those levels can give some benefits for both educators and learners. Meanwhile those levels of thinking are changed into new version of Bloom's Taxonomy which is known as the Revise Bloom's Taxonomy.

As explained by Krathwohl (2002), the changes are occurred in its name, order and dimension. Three levels were being renamed ('knowledge' becomes 'remember', 'comprehension' becomes 'understand' and 'synthesis' becomes 'create'). The last two levels are changed in order as well. If in the original Taxonomy the fifth and sixth levels are 'synthesis' and 'evaluation', then in the revised Taxonomy the fifth and sixth levels are 'evaluate' and 'create'. The last change is occurred in its dimensions by allowing the two aspects (noun and verb) to form separated dimensions namely knowledge and cognitive dimensions. The noun provides the basis for the knowledge dimension, and the verb forms the basis for the cognitive process dimension.

C. ACCOMODATING HOTS AND TEACHING WRITING THROUGH STRIKING

HOTS and Teaching Writing

Higher Order Thinking Skills (HOTS) are considered to be an important aspect of teaching and learning. Up to the present time, it is believed that in order to survive in this modern era, learners need to possess what Wagner (2008: 14) called as "21st-century skills" (e.g.: creativity and critical thinking, problem-solving, and analytical reasoning in their learning). Generally speaking, they cannot survive only by memorizing textbooks. They are strongly suggested to explore and experience authentic tasks connected to the real world. In that world, they can develop, master, and demonstrate authentic skills. With those intentions,

some scholars conduct intensive research on this field. Some of them even clearly define the term HOTS.

Moore and Stanley (2010) remark that higher-order thinking skills – also known as critical thinking or higher-level thinking – is hierarchical levels of thinking which involve using reasoning skills, both deductive and inductive. They also note that this high level of thinking includes the activities of comparing, classifying, sequencing, patterning, web forecasting, hypothesizing, critiquing, etc. If we consider the level of thinking establish in Boom's Taxonomy, the three levels that require HOTS are analyze, evaluate and create.

Analyzing activity means breaking apart information and examine how the parts relate to each other. It is more than merely studying particular information. Another essential part of the analyzing level is that learners are expected to inference none entirely literal or precise information and also find the evidence to support the inference. The next level is evaluating in which learners use some criteria to judge or make an opinion about an object. This is what makes this level challenging. The opinion, however, needs to fit the criteria, but still, it should be an original thought. Last but not least is creating. This level demands learners to get information from a different way to conclude a new perception. Many educators often mistakenly take it as applying activity, since both creating and applying deal with making something new by putting things together. What makes them different is in applying something learners take something learned and use (apply) it in the same way but a new situation. On the contrary, the activity of creating involves learners to make up a whole new product.

Those three levels of Bloom's Taxonomy should be implemented in teaching-learning writing. It should be done since there will always be a connection between writing and critical thinking (HOTS). Writing is considered as (1) process of doing critical thinking and (2) product that communicates the result of

critical thinking (Sachs, 2004). Therefore, writing will be seen as a monotone activity if it is only considered as one of the communication skills instead of the process and product of critical thinking. Let us think about this phenomenon. If writing is only considered as one of the communication skills, then the final question that may occur is "is the writing clear?", but if writing is considered as both process and product of critical thinking, then, the questions that may occur are "Is the writing interesting? Does it show a mind actively engaged with a problem? Does it bring something new to readers? Does it make an argument?" Look at the following examples:

1. Do you think writing changed our society? How? Give reasons to support your answer.
2. "Need is the mother of invention." Do you think this saying is applicable to the development of technical writing? Discuss how it is applicable and support your discussion with reasons.
3. Which is your favorite kind of writing? Why? Give reasons for your answer.
4. What do you think would have motivated the early man to record and draw on walls using signs and symbols? Discuss.
5. Discuss differences between different genres of writing like fiction and non-fiction? You may focus on:
   a. How are they different?
   b. How do they speak to different audiences? (Bahasa Inggris SMA/MA/SMK MAK kelas XI Semester 2, 2014: 6)

Those questions are posed to the students after they are given an article entitled The Technical of Writing. The first, second and fourth questions are given to make the students do analyze activity, in which the students have to find the relation between each part of the information. The third and fifth questions are considered evaluating activity, in which the students are not only asked to give a judgment on a certain issue but also, what more important is, to give defensive reasons for their judgment. This evaluating level can usually be done after the

students do the analyzing level. After being given all of those five questions, the students are then asked to make reflection related to the following questions

> Do you think advent of writing has had a major influence in making our world as it is now? If writing had not been invented what would our world be like? Reflect on it for a few minutes. Write your reflections here. (Bahasa Inggris SMA/MA/SMK MAK kelas XI Semester 2, 2014: 7)

The question above expects students to do creating activity in which they create something different from anything they have learned. They should take the information apart and put it back together into such a different or new form. To answer the questions above, students should first pass the lowest levels of thinking: remembering, understanding, and applying the information. Then the next possible question is, "how should we teach HOTS through writing?"

In teaching writing, the implementation of HOTS can be done through a well-designed method, material, and media. This paper will be focusing on the media which can be used to stimulate the students' HOTS. One of the media that can be used is computer-assisted learning media, namely "STRIKING" digital media.

Computer-Assisted Learning Media

The computer is a tool used for displaying information with high speed and accuracy. A computer is used for several purposes, such as learners use computers for learning, teachers use computers as a learning tool; it also used by individuals at home to study, work, and entertain. The most important part of computer is software. The software usually contains a set of information which can be used to control data like word-processing, game program, etc. In the educational field, the computer is used as the media of teaching, and it also offers some benefits. According to Warschauer and Healey (1998: 59), using a computer component of

language teaching will give some advantages which are: (1) "multimodal practice, (2) pair and small group work on projects, either collaboratively or competitively, (3) the fun factor, (4) variety in the resources available and learning styles used and (5) exploratory learning with large amounts of language data". They also claim that computer can be one of the suitable media in teaching language since it is viewed as the mechanical tutor that never grow tired or judgmental and it also allows the learner to work individual. Hani (2014) argues that using computers in the classroom allow the teacher to use different tasks and have enormous potency as teaching aids. Computers can also be used both teachers and learners to assist their teaching and learning process since computers have distinctive characteristics. Moreover, teaching and learning using a computer can accommodate students' HOTS.

Learning using computer-assisted media is reported to be different from traditional learning – learning without using technology. Learning using computer-assisted media seems to be more learners centered rather than teacher/textbook center. In the learner-centered activity, the learners are claimed to "actively manipulate information" in a different context from different resources which then aims to solve a significant problem (Ramirez & Bell in Knezek, Simms & Hopson, 2001: 116). The second reason why the developed media can facilitate learners' HOTS is that the use of technology lets the users organize, analyze, interpret, and evaluate their own work. Since it makes the users able to manage their learning, automatically, the teachers' role will move from a source of information and instructor to facilitator or guide. In short, the computer can be used as a tool for problem-solving and decision making (Knezek, Simms & Hopson, 2001).

Besides accommodating learners' HOTS, the exposure of technology will give other practical benefits to the learners. For example, the students tend to show a

positive attitude towards the importance of computers. If the students are given much exposure to technology, they will recognize the associated benefits of using it and will continue to use it as a learning tool. Another positive attitude is related to their motivation and creativity. The learners, when provided with technology, are more likely to manipulate and control their own learning, stay focus on completing the task, and find solutions to problems (Knezek, Simms & Hopson, 2001). As has been mentioned previously, the media proposed in this paper is a computer-assisted learning media called "STRIKING" media.

STRIKING Digital Media

"STRIKING" is the abbreviation of the "strengthening critical thinking in writing". This media is designed to be used in teaching and learning writing which includes HOTS oriented activities and tasks. Its form is similar to a digital study package includes a collection of materials which can be used as a supplement to learners' studies or as a review of the writing lessons they may have missed or forgotten. The aim of making it in the form of digital media is to enable its users to play the attached videos (short movie, news, and advertisement), sounds (news on radio, song, and poem) and animated text. The variety of the materials hopefully will avoid the users get bored. Besides, the users can also add, delete, or edit some notes, answers, and comments. Moreover, the digital study package combines the text, graphics, sound, and motion video presented by a computer which allows users to control the program.

The users can efficiently operate this media through four-phased instruction: (1) Introduction about the topic will be discussed; (2) presenting information in which computer-assisted media provide video, audio, text, and image, as the examples of topic related; (3) the users start to contribute to activities or task included in computer-assisted media; (4) the users practice the instruction included. At the

end of the lesson, the users are provided with self-reflection rubrics to know how better their improvements are. The learners can do all of those phases without connecting to the internet. The activities and tasks included in this media are HOTS-oriented. That is why this media is believed to accommodate learners' HOTS.

D. CONCLUSION AND SUGGESTION

Writing is considered as a vital skill in students' English learning process, as well as their daily life. It is because students' achievement toward the teaching-learning process can be manifested in their piece of writing works. Moreover, teaching writing will be related to the critical thinking process since writing is considered as a process of doing critical thinking and a product that communicates the results of critical thinking. Thus, writing will be seen as a monotone activity if it is only considered as one of the communication skills instead of the process and product of critical thinking (HOTS). To accommodate writing and HOTS, a media called "STRIKING" is needed to be implemented in the EFL classroom. This media is expected to promote students' HOTS through the activity of writing process since this media is designed to be used in teaching and learning writing which includes HOTS oriented activities and tasks.

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