

CHAPTER II

REVIEW OF LITERATURE

This chapter presents the review of literature. It discusses defining instructional questions, question types of English textbook, revised Bloom's Taxonomy, Higher Order Thinking Skill, and the significance of HOTS in education.

A. Defining Instructional Questions

A question is any sentence which has an interrogative form or function. While instructional comes from the word of instruction which means an order or direction to carry out the task. The intended task here is teaching and contains lessons. These questions usually appear in different sections of lessons and units. Due to the powerful influence of coursebooks on classroom instruction, it seems to be important for educators to be aware of the questioning practices in the coursebooks and their effects on learners' learning, Zareian, G., Davoudi, M., Heshmatifar, Z., & Rahimi, J. (2015). So the understanding of instructional questions in this research is a question that aims to describe the knowledge, abilities, skills, and attitudes that must be possessed by students as a result of the teaching results expressed in the form of behavior that can be observed and measured. Instructional questions in this research are presented for activities in textbooks that include listening, reading, speaking and writing EFL.

Because instructional questions in textbooks play an important role in classrooms in all types of educational institutions such as schools, colleges and

language schools throughout the world, books that provide instructional questions as a resource must develop a sense of progress and achievement. Kusuma, M. D., Rosidin, U., Abdurrahman, & Suyatna, A. (2017) state that one of the cause factors is Indonesian students do not trained much in solving contextual questions, demanding intellectual activity, argumentation and creativity in finishing it, where the questions are characteristics questions which estimate HOTS. So, this study focus on instructional questions in textbooks can be a source for independent learning, an effective source for presenting questions and material to students, a source of ideas and activities, a source of reference for teachers, a syllabus that reflects established learning goals, and support for beginner inexperienced teachers in choosing efficient language teaching and learning materials as noted in Tomlinson (2012).

Furthermore, Allwright (1990) as cited in (Zaiturrahmi, Kasim & Zulfikar, 2017) views instructional questions as a source for ideas and activities. They provide various activities that can be adapted and modified by teachers based on their syllabus needs. Then Ulum, Ö. G. (2016) argues that, this study sheds a light upon the efficiency of course books in developing cognitive skills as well as guiding course book developers, educational policy-makers, program and syllabus designers in terms of incorporating more higher-order questions in their materials, in our case course books, in a way to achieve higher level cognition skills. In addition, the authors believe that instructional questions in textbooks can meet the needs of students even though they are not specifically designed for specific groups of students and are therefore beneficial for teachers and students. It can be

concluded that the instructional question becomes an important asset for teachers to provide meaningful activities, help students learn by themselves and stimulate students' HOTS to be more honed.

B. Question Types of English Textbooks

A textbook plays an important role in teaching and learning. Although some of the teachers use textbooks as an additional material, textbooks help teachers in the teaching learning process. Khodadady, E., & Karami, M. (2017) state that a textbook is an essential component of EFL classes and most of the ELT professionals incorporate the use of textbooks in their daily teaching practices. Ahmad, U., L. (2016) explains that the implication is that higher order questions would promote higher order processing of the text. It assists teachers to develop teaching materials and help students to learn easier. It also can improve student comprehension in the classroom. Almost all the learning processes are assisted by a textbook. A textbook usually provides appropriate ideas, readings, exercises, and activities related to the subject matter (Jobrack, 2012). It is one of the key components in the language program. In some situations, it serves as the basis for language input for learners where they receive and practice the language in the classroom (Richards, 2010).

In addition, the Ministry of National Education (2004) defines a textbook as a set of compilation of teaching materials which are methodically arranged by the authors in order to follow the current curriculum. Furthermore, a textbook should be able to assist a teacher in producing questions in HOTS level which develop students' thinking, Yana, E., F., & Zainil, Y. (2019). Roohani, A., Taheri, F., &

Poorzangeneh, M. (2014) state that textbooks can play the role of a syllabus and a self-study source for learners and represent the fundamental on which teaching and learning are based. In the other words, a textbook is a set of teaching learning instructions which contains lessons, skills and coherent or continuity topics that are written or arranged by authors in order to follow the current curriculum that carry out the teachers 'and students' needs. In addition, according to Bloom's taxonomy an ideal textbook must provide the following levels of knowledge, understanding, application, analysis, synthesis, and evaluation:

1. Remembering

Remembering is when memory is used to produce definitions, facts or lists, or recite or retrieve material. In the learning process, students are expected to store information in their minds and the expected behavior is to remember information. Defined as recalling previously learned material from specific facts to complement the theory. This level involves remembering the material without additional thought processes. The operational verbs commonly used are as follows: bookmarking, defining, finding, listing, reading, retelling, etc. Examples of activities involved at this level are: Label the plant parts. Group questions 5W + 1H. List the methods in learning. Identify food groups that contain protein.

2. Understanding

Understanding is about constructing meaning from different types of functions be they written or graphic. This level involves translating material from one form to another such as words to numbers, interpreting materials by

explaining, or predicting consequences. Understanding represents the next level after memorizing material. The operational verbs used include: summarizing, describing, interpreting, predicting, associating, estimating, discussing. The following are examples of activities that are usually carried out at an understanding level: Give reasons for an energy crisis. Reiterate the reason for weather changes. Summarize the story. Give examples of recount text and retell a story.

3. Applying

Applications refer to situations where products are used through products such as models, diagrams, presentations, interviews and stimulations. This includes the application of rules, methods, concepts, principles, laws and theories in appropriate situations. Application level learning outcomes require a higher understanding than the previous level. The operational verbs used include: calculating, implementing, completing, presenting, sharing, choosing, acting out, etc. Examples of this level of activity include: Enter this information in graphical form. Arrange the forms of pollution from the lowest level to the most severe. Use knowledge from various fields to find solutions to problem X.

4. Analyzing

Analysis of means breaking materials or concepts into parts, determining how the parts interrelate to one another or to an overall structure or purpose. This level of analysis involves identifying parts, analyzing the relationships between parts, and acknowledging the principles of the organization involved.

The operational verbs used include: analyzing, arranging, comparing, deconstructing, concluding, investigating, observing, separating, etc. Activities involved at this level include: Read non-fiction books then divide the book into sections. Tell me why the parts are placed in order. Compare the two animals in writing. Distinguish between facts and conclusions.

5. Evaluating

Evaluating is making judgments based on criteria and standards through checking and critiquing. This level involves the production of unique communications, operational plans such as research proposals, or schemes for classifying information such as a set of abstract relationships. Learning outcomes in this field emphasize creative behavior, with the main emphasis on the formulation of new patterns or structures. Applicable operational verbs include: judging, justifying, testing, arguing, critiquing, concluding, recommending, revising. The following activity is an example: Create a new song for the melody "twinkle twinkle little star". Combine elements of drama, music and dance in the performance. Develop plans for an adiwiyata school.

6. Creating

Creating is putting elements together to form a coherent or functional whole, reorganizing elements into a new pattern or structure through generating, planning, or producing. These criteria can be internal organizational criteria, or external criteria that are relevant to the goal. The creating category involves the thought process of all the previous ones and therefore is the highest in the thought process hierarchy. The operational verbs

used include: collaborating, facilitating, formulating, integrating, making, mixing, producing, solving, etc. Examples of activities include: Integrate the actions of your favorite historical figures. Determine the criteria needed for good resources. Make a speech on the theme of education.

C. Revised Bloom's Taxonomy

According to Bloom, there are six levels in a successive hierarchy: knowledge, comprehension, application, analysis, synthesis, and evaluation. While the first four levels are understood to be a "true hierarchy", it is possible that levels five and six are equally difficult. HOTS is likely part of level six, evaluation, as it is this level that "focuses on making an assessment or judgment based on an analysis of a statement or proposition" Vaseghi, Gholami, & Barjesteh, (2012). This content analysis research is strengthened by this theory because Bloom's Taxonomy has become the basis of the type of questions that gave rise to HOTS. Bloom itself is not stagnant in the meaning above but also develops to adapt to the needs of globalization that is completely modern. The previous Bloom theory was called the Original Bloom's Taxonomy and after it was fixed it was named Revised Bloom's Taxonomy.

Bloom's Taxonomy provides an important framework for teachers in order to create the performance assignments for the students. It is also the guidance for categorizing the questions. The Bloom's Taxonomy classifies the level of thinking from the lowest to the highest level of thinking. The original Bloom's taxonomy has six types; they are knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, Krathwohl, & Masia, 1964, p. 186-193) as cited

in Andriani (2017). To add to the completeness of the literacy material, in the six levels of cognitive questions will be classified according to creativity consultant named Gast, (2018) into Demonstrated Skills and Instructional Questions.

First, the skill demonstrated from knowledge is observation and recall of the information and the instructional question is define, tell, describe, identify, examine; Second, comprehension has demonstrated skills in the form of understanding information and grasp meaning, and instructional questions, namely summarize, describe, interpret, contrast, predict; Third, the demonstrated skills of the application are solve problems using required skills or knowledge then instructional questions apply, demonstrate, calculate, complete, illustrate; Fourth, the analysis has demonstrated skills namely seeing patterns and organization of parts as well as instructional questions such as analyze, separate, order, explain, connect; Fifth, synthesis has demonstrated skill domains, namely use old ideas to create new ones and instructional questions, namely combine, integrate, modify, rearrange, substitute; Sixth, evaluation is a high level because the demonstrated skill is compare and discriminate between ideas, assess the value of theories, and presentations then instructional questions include measure, recommend, convince, select, judge, explain, discriminate.

According to Revised Bloom's Taxonomy by Krathwohl and Anderson (2001) as cited in Andriani (2017), HOTS refers to the last three levels of cognitive process dimensions: analyzing, evaluating and creating. Pickard, M (2007) as cited in Keshta, A., S., & Seif, S. (2013), also argue that Bloom's taxonomy contains three overlapping domains: the cognitive, affective and

psychomotor. The taxonomy is a means to express qualitatively the different kinds of intellectual skills and abilities. The cognitive and affective domains provided a way to organize thinking skills into six levels, from the most basic to levels that are more complex. However, improvements to this theory functioned as learning tools for the achievement of valid HOTS students according to the times. In Revised Bloom's Taxonomy, it focuses on three levels of high-level cognitive domains. The intended level is; First, analyzing in which there is demonstrated skill in the form of recognition of hidden meanings with instructional questions that are analyze, separate, order, explain, connect. At this level it is almost the same as the Original Bloom's Taxonomy, which distinguishes only verbs used; Second, evaluating has demonstrated skills, namely make judgments based on criteria and standards with instructional questions in the form of assess, decide, rank, grade, test, measure, recommend; Third, creating is the highest cognitive level with demonstrated skills, namely thinking independently and in new ways, able to originate and innovate. In addition, the instructional questions are design, imagine, conceive, innovate, hypothesize, investigate.

In conclusion, the original Bloom's Taxonomy theory differs from the Revised Bloom's Taxonomy theory at the high level cognitive domain level. The name of six categories changed from noun to the verb; they are synthesis to create, evaluate to evaluate, analysis to analyze, application to apply, comprehension to understanding, and knowledge to remembering. The Bloom's Taxonomy requires the way of thinking so that it was decided to use verbs rather than noun because thinking is a verb that shows a process. In this content analysis

study, researchers chose to use the Revised Bloom's Taxonomy because the theory is more updated and in accordance with curriculum standards in Indonesia. Plus, textbooks, research books from the author have also implemented 2013 curriculum standards. Which concept is there creating a process to reach HOTS students.

D. Higher Order Thinking Skills

Critical thinking skills are described by Thaiposri & Wannapiroon (2015) as cited in Andriani (2017) as valuable educational goals and understood as thought processes for deciding what to believe or do. The literature on HOT has been informative and broad in the sense that HOT builds on and extends beyond Bloom's Taxonomy, resulting in discrete dimensions attributed to it: critical thinking, creative thinking, problem solving, decision making and metacognition, just to name some prominent ones. Yen, T. S. & Halili, S. H. (2015). This allows students with critical thinking skills to be able to influence their work patterns and lure them to have problem solving skills using strategies they devise themselves. On the other hand Zabihi & Pordel (2011) argues that HOTS means good thinking which is against irrational thinking. HOTS also have been defined in the literature as "occurring when a person takes new information and information stored in memory and interrelates and/or rearranges and extends this information to achieve a purpose or find possible answers in perplexing situations" Polly, D. & Ausband, L. (2009). When collaborated with previous meanings, it is understood that HOTS is a thought pattern that is carried out in depth, logical and structured in order to achieve problem solving along with the best solution.

Based on experts' views on how HOTS is conceptualized both as a set of skills and as a set of dispositions or traits available with the theory of Paul & Elder (2006) as cited in Barnaby, (2016). HOTS is more of an act of drawing conclusions, connecting with other facts and concepts, manipulating, categorizing, combining with new ways, and applying them to find new solutions for new problems (Thomas & Thorne, 2009) as cited in Yuliati, S., R., & Lestari, I. (2018). This study illustrates how extensive the explanation of HOTS is. Some experts conceptualize HOTS as a skill, what is meant as a skill here is the ability to solve problems by providing appropriate solutions. Second, the purpose of HOTS as a series of traits is the character or behavior that results from HOTS. HOTS can lead to positive self-character that is, high self-confidence, self-regulation, have a sense of caring for others, and are independent in taking care of their own needs.

Addition from the same expert, Paul & Elder (2006) as cited in Barnaby, (2016) defines HOTS including intellectual integrity, humility, sense of justice, perseverance, fair-mindedness, confidence in reason, courage, empathy and autonomy. The thinking process that is operated by students is essential for mental health, high achievements, and professional success. Assaly, I. R. & Smadi, O. M. (2015). The statement strengthens the explanation of the researchers in describing HOTS which integrally impacts the mindset of students and also their mentality. The relationship with instructional questions is clearly stated that by having HOTS someone will automatically try to answer questions logically using their own language. Not only that they are also confident in the arguments they

are expressing. Collaboration of the understanding and objectives of HOTS above leads to the improvement of the education system to a specified level.

In conclusion, HOTS is a skill in the process of thinking that is sharp and deep about an accepted thing. The process can be defined as a way to solve problems, answer questions that are high order thinking, and the process of getting the best solution. The HOTS process can be done with questions or problems that encourage someone to think deeply. The question in question is in accordance with the Bloom Taxonomy Economy theory, which includes remembering, understanding, applying, analyzing, evaluating and creating. In provoking even critical thinking processes, not all questions can be sufficient, only questions related to higher-cognitive levels in the cognitive domain of Bloom's taxonomy. In other words, HOTS can only be obtained when students are required to answer applications, analysis, evaluation and creating questions.

E. The Significance of HOTS in Education

21st Century learning uses a term known as 4C (Critical Thinking, Communication, Collaboration, and Creativity). 4C are four skills that have been identified as 21st century skills as very important and needed skills, elaborated by (Ariyana, Pudjiastuti, Bestary, & Zamroni, 2018). Hassan, M. N., Mustapha, R., Yusuff, N. A. N & Mansor, R. (2017) argue that the main goal of education is to foster higher order thinking skills among students of all ages. Damanik, S., N., H., & Zainil, Y. (2019) also describe that The Ministry of Education and Culture in Indonesia has been implemented the curriculum 2013. The curriculum 2013 is designed to focus on the student-centered rather than teacher-centered. The

implementation of the curriculum 2013 fell into the textbook. The reading comprehension questions in the English textbook will prove the implementation of the curriculum 2013 by using higher order thinking skill.

The 21st Century Skills Framework itself refers to critical thinking and problem solving which is explained in more detail in 21st century thinking competencies. Because education can create creativity and build up an innovation that complement the younger generation with the skills needed to compete in the industry and become the catalyst for economic growth, Hamdan, N. et al. (2019). Regarding this, students are expected to be able to identify, analyze, interpret, and evaluate evidence, arguments, claims, and data presented extensively through in-depth study, as well as reflecting it in everyday life. As explained above, that the development of cognitive science shows the results of a significant increase in learning when students are involved in the learning process through authentic real-world experiences.

Based on the results of ongoing research and answering learning needs that clearly define what is needed by students to develop digital diara today. This study focuses on the implementation of HOTS on students' skills in answering instructional questions in textbooks. Likewise according to Schneider, (2002), here are some ways that teachers can help EFL explore problem-solving tasks and learn through their own personal and purposeful discoveries HOTS. First, don't readily find solutions for students. Second, always seek opportunities for brainstorming. Third, compare and contrast anything and everything. Fourth, encourage creativity. Fifth, teach students to think critically across the curriculum.

All of that needs to be done on the basis of HOTS students' needs in the realm of education in an increasingly sophisticated era.

In order to be a good critical thinker, one should think for a purpose, within a point of view, based on assumptions, leading to implications and consequences, using data, facts and experiences, to make inferences and judgments, based on concepts and theories to answer questions or solve a problem (Junining, 2018). Talebinezhad, M. R. & Matou, Z. (2012) also explain that academically successful learners possess problem-solving, analytical, and critical thinking skills. The following paragraphs will discuss more detailed description of these importance of HOTS in the field of education. From the above theory, make educators and students aware of themselves to take the right steps in the learning process. In accordance with this study related to Analysis of Instructional Questions by using Revised Bloom's Taxonomy on Higher Order Thinking Skills. In order to find out the analysis, researchers must classify the extent to which instructional questions for activities in this English textbook emphasize HOTS and describe the most dominant cognitive dimensions of instructional questions for activities in this English textbook.

F. Review of Previous Study

In the context of the analysis of instructional questions by using revised bloom's taxonomy on higher order thinking skills, it has been packaged by several previous researchers. As was done by Zaiturrahmi, Usman Kasim, and Teuku Zulfikar (2017), were Syiah Kuala University students who conducted research under the title Analysis Of Instructional Questions In An English Textbook For

Senior High Schools. This study uses the original Bloom Taxonomy theory with content analysis research methods. The subject in this study was an English book entitled English High School / MA / SMK / MAK Class X Semester 1 of 2014. In classifying the types of instruction questions that often arise, researchers used a taxonomy level coding table. The findings from the research in Banda Aceh draw the conclusion that most of the instructional questions of the activities emphasize LOTS. Next, the author must provide instructional questions that provoke students' thinking capacities above their level of knowledge to achieve HOTS.

Further research was carried out by a student from Syiah Kuala University. This study takes the title Analysis of Reading Comprehension Questions by Using Revised Bloom's Taxonomy on Higher Order Thinking Skills (HOTS) as cited in Febrina, Usman, B., & Muslem, A. (2019). Almost the same as previous research, this research uses content analysis method. The difference is researchers use Revised Bloom Taxonomy. The subject of this research is an English book entitled English for SMA / MA / SMK / MAK textbook 11th grade semester 1. Researcher collected and listed the questions in the reading comprehension tasks and then calculated the percentage and frequencies of each level of cognition. The results showed that the most dominant level in the textbook was HOTS. It was 66.8% of 100% while it was 33.4% for LOTS. It indicated that this textbook concentrated more on higher-level thinking questions than lower level thinking.

In conclusion, each researcher has its own characteristics in conducting research even though it is still in accordance with the applicable procedural methods. In this content analysis, researchers have unique things that are the basis

of reader interest. First, this research was conducted on the latest textbooks with curriculum standards that contain HOTS. Second, the book is compared with other similar books but has different content and content contents. Third, the results of this study will be validated through triangulation of accuracy by an expert in the HOTS field. All of this is done for the realization of an effective and efficient learning process.