Critical thinking in evaluation instruments at BSE Indonesian language

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ABSTRACT

This article aims to describe the diversity of critical thinking contained in the evaluation instrument at Electronic School Book (BSE) Indonesian High School 2019/2020 Academic Year. This study uses a qualitative approach by applying the principles of content analysis. The data sources in this study were 541 evaluation instruments spread over eight teaching materials, namely compiling procedural texts, studying explanatory texts, managing information in lectures, studying life in short stories, preparing proposals, designing scientific papers, assessing works through reviews, and plays. The results showed that there were 189 evaluation instruments relevant to critical thinking aspects. Determines the credibility of a source and distinguishes between relevant and irrelevant as much as 22 or 11.6%. Identifies and evaluates unspoken assumptions and identifies biases that exist as many as 19 questions or 10.1%. Identifies the point of view as much as 100 questions or 52.9%, and evaluates the evidence offered to support as much as 7 questions or 3.7%. Based on the percentage of each critical thinking indicator, it can be concluded that efforts to develop critical thinking aspects in the evaluation instrument of the Indonesian Senior High School BSE have been developed well and are quite diverse.

INTRODUCTION

Critical thinking is one of the 21st century skill components. Critical thinking is one of the abilities of a person to interpret and analyze a thing carefully. That is, when he gets information, he does not simply conclude and believe in it, but instead questions, compares or thinks carefully about the truth and untruth of the information. Thus the understanding of the information can be logically argumentative, and can be justified. Critical thinking is one of the basic skills of the century for the intellectual development of individuals to sustain global welfare (Bağ & Gürsoy, 2021). The 21st century skill, namely critical thinking, is very important to support the careers of students in the future (Lavi & Dori, 2021).

The development of students' critical thinking skills must be pursued by all learning organizers. The teacher, as one of the main motors of learning, must understand and optimize efforts to develop students' critical thinking skills properly. This is in line with the opinion of Xu & Chen (2020), that teachers influence student learning performance. The model of conveying information that is closed from various possibilities for multiperspective responses must be avoided. Therefore, the flexibility of students in providing responses and opinions accompanied by strong arguments for information must continue to be developed. This is in line with what was stated by Berestova, Ermakov, Aitbayeva, Gromov, & Vanina (2021), that the activation of creative thinking in the learning process is strongly influenced by elements of the concept of educational courses such as daily educational practice.

In addition, using the textbook model, in this case BSE, also has a very important role in supporting students' critical thinking skills. Electronic books, or BSE can be used by students, teachers, and school as a media that can support or improve the learning process (Osman, Halim, & Meerah, 2006). Through the presentation of teaching materials and various evaluation instruments as well as various practice questions contained in it, students can be directed to be able to criticize various social events presented through the text. Text as intended by Kosasih (2019) is an activity or language event in the form of oral or written form.

The evaluation instrument contained in textbooks or electronic school books (BSE) is one of the main components in the preparation and presentation of textbooks. Through these instruments, students can carry out learning activities independently. In addition, through the evaluation instrument in the BSE, students can also measure their ability on the subject matter they have learned. Therefore, the evaluation instruments contained in the textbook or BSE must be well arranged. One of them is that students must be able to improve their critical abilities.

Critical thinking is one of the main competencies in the skills of the 21st century. Critical thinking is also an essential competency that is the basis of education delivery (Liang & Fung, 2020). Improving students' critical thinking is an important goal of education (Bravo, Galiana, Rodri, Pérez, & Oliver, 2020). Contemporary education provision must teach critical thinking (Dekker, 2020). Critical thinking has been shown to be effective in managing negative experiences (Sk & Halder, 2020). This implies that through the ability to think critically a person will not be easily influenced by various information that is negative or cannot be trusted. Someone will question the validity of the information and then take appropriate action in line with the information he has received.

Critical thinking makes a unique contribution to academic performance (Ren, Tong, Peng, & Wang, 2020). Critical thinking has an important role in student performance (Li, Ren, Schweizer, Brinthaupt, & Wang, 2020). Critical thinking is the core of learning in each educational unit (Liyanage, Walker, & Shokouhi, 2020). One learning model that can be used to develop students' critical thinking skills is problem based learning (Seibert, 2021). In addition, cooperative learning is also able to encourage students to think critically to solve problems (Silberman, Carpenter, Takemoto, & Coyne, 2020). Therefore, educational practice is very important for the development of critical thinking (Polat & Aydın, 2020).

Several studies regarding the importance of critical thinking skills have also been carried out in several professional education. Among others are Wang, Nakamura, & Sanefuji (2020). According to them, critical thinking is an important skill for pharmacists. Next, Zhang & Chen (2021) argued that critical thinking and clinical reasoning are core competencies that are emphasized in nursing practice. Then Wong & Kowitlawakul (2020) Likewise, critical thinking is a core element of nursing higher education that needs to be promoted during university studies.

Along with the issuance of policies regarding the use of BSE in each educational unit, many studies on BSE have been carried out to date. Among them are Irawan, Sari, & Setyoningrum (2011); Utami (2012); Tanjung (2013); Nisja (2018); Listeani, Safi'i, & Ibrahim (2021). Some of these studies have not emphasized specifically on aspects of critical thinking contained in evaluation instruments or exercises related to various teaching materials in Indonesian BSE. As a result, until now no information has been obtained on how to develop critical thinking aspects contained in the Indonesian BSE. Therefore, this article will describe the results of research on the development of critical thinking aspects contained in the Indonesian BSE. The study on the implementation of critical thinking aspects contained in the evaluation instrument in the Indonesian BSE is expected to contribute information about one of the requirements for a quality textbook, which is to be able to develop students' critical thinking skills.

The study on the development of this critical thinking aspect uses several indicators contained in the Guidelines for Implementing 21st Century Skills for 2013 Curriculum in Senior High Schools published by Dit. PSMA Directorate General of Primary and Secondary Education (2017). This critical thinking aspect includes seven indicators, namely (1) determining the credibility of a source, (2)

distinguishing between the relevant from the irrelevant, (3) distinguishing fact from judgment, (4) identifying and evaluating unspoken assumptions, (5) identifying existing biases, (6) identifying viewpoints, and (7) evaluating the evidence offered to support recognition (Sutanto, 2017).

METHODS

This research uses content analysis method by applying the procedure of Mayring (2014) which consists of eight steps, namely (1) compiling research questions, theoretical background, (2) compiling research criteria, category definitions, (3) analyzing text which is the object of research, (4) checking initial data, (5) analyzing the final material, (6) determining the main categories in the research, (7) checking the validity of the data, and (8) discussing and interpreting the research results.

The data source in this study is the electronic school books, Indonesian language textbook, which is intended for high school students. The evaluation instrument data analyzed were related to the various teaching materials contained in the BSE, namely *Procedure Texts for Studying Explanatory Texts, Managing Information in Lectures, Studying Life in Short Stories, Preparing Questions, Designing Scientific Works, Assessing Works through Reviews*, and *Playing Dramas*.

The data to be collected is in the form of the relevance of evaluation instruments with various aspects of critical thinking according to Beyer (1985) which is contained in the Guide to Implementing 21st Century Skills Curriculum 2013 in SMA and published by Dit. PSMA Directorate General of Primary and Secondary Education. The analysis is carried out by examining each item contained in the Indonesian BSE of SMA class XI. The content of the questions or evaluation instruments is then combined with various indicators of critical thinking aspects that have been packaged into the research rubric.

The data that has been collected is then rechecked so that its validity can be more accounted for. The data examination was carried out in this study by using the triangulation technique. The type of triangulation used is in the form of theoretical triangulation. Data on critical thinking aspects contained in the evaluation instrument for each teaching material that has been obtained is checked again by linking it with various theories regarding critical thinking aspects.

RESULT AND DISCUSSION

Based on the research that has been carried out on the sharing of evaluation instruments related to the eight teaching materials in Indonesian BSE, a number of data are obtained regarding the level of relevance to the aspects of critical thinking as the seven predefined indicators. The following is a description of the research data in question.

Table I. Aspects of critical thinking in Indonesian BSE

Teaching Materials	Assessment of Critical Thinking Aspects							total	Percentage
	I	2	3	4	5	6	7		
Procedure Text	6	I	0	5	3	37	I	53	28.04
Studying Explanatory Text	2	I	0	3	I	8	2	I7	8.99
Managing Information in Lectures	4	4	0	4	6	6	I	25	I3.23
Exploring Life in Short Stories	5	6	0	6	I	I4	3	35	I8.52
Preparing Proposals	0	0	0	I	3	24	0	28	I4.8I
Designing Scientific Work	I	0	0	0	4	4	0	9	4.76
Judging Works Through Reviews	2	8	0	0	0	0	0	I0	5.29
Play Drama	2	2	0	0	I	7	0	I2	6.35
Total	22	22	0	I9	I9	I00	7	I89	34.94
Percentage	II.6	II.6	0	I0,I	I0,I	52.9	3,7	I00	I34.94

Information:
1) determine the credibility of a source
2) distinguish between the relevant from the irrelevant,
3) differentiate fact from judgment,
4) identify and evaluate unspoken assumptions,
5) identify existing biases,
6) identify points of view,
7) evaluate the evidence offered to support the admission

Based on the data above, it can be seen that efforts to develop critical thinking skills contained in the evaluation instrument in the Indonesian BSE SMA class XI have been strived well, but the diversity of every aspect has not been carried out equally. The total number of evaluation instruments relevant to the development of students 'critical thinking skills is 189. Evaluation instruments that are relevant to the development of students' critical thinking skills about determining the credibility of a source and distinguishing between relevant and irrelevant are 22 questions or equal. 11.6%. Types of evaluation instruments that are relevant to the ability to identify and evaluate unspoken assumptions and identify existing biases are 19 soa or 10.1% respectively. The types of evaluation instruments that are relevant to the development of the aspect of identifying the point of view are 100 questions or 52.9%. The number of evaluation instruments relevant to the aspect of evaluating the evidence offered was 7 questions or 3.7%. Furthermore, there is one aspect of critical thinking skills that has not been developed in the evaluation instrument at BSE SMA 2019/2020 lessons, which is about distinguishing between facts from assessments.

Some examples of the critical thinking aspect evaluation instruments are as follows.

Table 2. Examples of critical thinking aspect evaluation instruments in Indonesian BSE

Category aspects of critical thinking	Example
Determine the credibility of a source	1. Determine the important parts in the script, namely the theme, plot, characters, setting, message, and the author's intention to make the play script! 2. What is the evidence that all the texts below are in the form of explanations? What are the general ideas and important facts in the text?
Distinguish between the relevant and the irrelevant	1. Write down the things that you think are important or useful from the contents of the text! 2. Discuss in groups! Find examples of compound sentences in one of the lecture texts above. Also explain the types of compound sentences!
Differentiate fact from judgment	1. What is meant by causality in the explanatory text? 2. What is the function of facts in explanatory text?
Identify and evaluate unspoken assumptions	1. Based on the content, what is the function of the procedure text? 2. Reread the two texts above entitled "How to Turn on a Computer" and "How to Turn Off a Computer"! Which parts are included in the general statement and the stages of doing an activity?
Identify existing biases	1. What is the main difference between procedure text and other types of text? 2. From its contents, explain what the procedure text is.
Identify points of view	1. Look for reading texts or books about the command to do an activity. Record the steps. Then, conclude according to your opinion so that you understand the meaning of the steps! 2. Identify the procedure text above based on the following table format!
Evaluate the evidence offered to support the admission	1. Present your group report in front of other friends. Then, ask for their rating/feedback using the grading rubric below! 2. Present your group's opinions about the structure. Then, ask friends from other groups to give their ratings or responses based on their accuracy, completeness, and clarity!

The critical thinking aspect of determining the credibility of a source is intended as part of an effort to train students' critical attitudes so that they do not easily believe the various information they receive. The information received must be really checked for correctness from several points of view. For example, by asking how accurate the information is, where the source of the information is, and whether the source of the information can be trusted. At least, there are 22 types of critical thinking evaluation instruments that have relevance to developing students' abilities to determine the credibility of a source. This shows that efforts to develop this critical attitude have been carried out in the preparation of evaluation instruments in Indonesian BSE SMA class XI for the 2019/2020 academic year.

The evaluation instrument on determining the credibility of a source directs students' critical thinking attitudes so that in receiving information it is not easy to believe, but must be questioned and proven about its correctness from several points of view. This is important to develop so that students do not easily believe the spread of various information from various media. Such a critical attitude is also relevant to what is emphasized by Chang, Zhang, & Gwizdka (2020), that the assessment of credibility is seen as a process of using criteria to interpret something. That is, credibility or trustworthiness about something will affect a person's attitude. This is also part of an important attitude so that you are not easily trapped by various information that tries to be misleading. Efforts to find out the credibility of an information are also important to anticipate the occurrence of such undesirable risks (Spence, Lin, Lachlan, & Hutter, 2020). In addition, of course, it will be able to support the improvement of students' language skills. This is in accordance with what has been stated by Rizam (2015), that a person's way of speaking will be influenced by his ability to reason.

The next aspect of critical thinking is to distinguish what is relevant from what is not. Carefulness in distinguishing what is relevant from what is not relevant needs to be trained or familiarized with students through the provision of appropriate teaching materials or evaluation instruments. As with the previous evaluation instrument type category, the number of evaluation instruments relevant to the development of students' critical thinking skills distinguishing aspects that are relevant from those that are not relevant is also 22 questions or 11.6%. This also shows that efforts to develop students' critical thinking skills related to distinguishing those that are relevant from those that are not relevant in the evaluation instrument of the Indonesian BSE SMA 2019/2020 academic year have been tried quite well (Banich et al , 2019). That is, the ability of students to identify various things about the relevance and irrelevance of a thing will increase student productivity in completing various academic tasks.

Efforts to develop students' skills in critical thinking can be pursued through several evaluation instruments that ask students to look at various figures of speech. This is as expressedby Strobel, Lindner, Saß, & Köller (2018), that deliberate metaphors are metaphors that are intended to change the perspective of the interlocutor and thus can play a relevant role in a discussion. Likewise with opinionsby van Poppel (2020), that data that is not relevant to the task significantly increases processing time, error rates, and cognitive load.

Distinguishing facts from judgments is the competence in identifying various characteristics about a matter. This effort can be done through providing evaluations or training to students to distinguish between facts and opinions. The critical thinking aspect reveals facts from the assessment that have not been developed in the evaluation instrument contained in the Indonesian BSE SMA 2019/2020 academic year. This aspect of critical thinking needs to be developed as other aspects of critical thinking because it is as stated by Davies, Alcock, & Jones (2021), that comparative judgments (defending from judgments) have an important role in investigating conceptions of ideas. The accuracy of the assessment of a matter will also affect the student's assessment of something (Urhahne & Wijnia, 2020).

The aspect of critical thinking that identifies and evaluates unspoken assumptions is one of the critical thinking skills that can be categorized as the part of the most difficult to do. In this activity, two thinking competencies are accumulated, namely identifying and evaluating an unspoken assumption. Lexical identification is determining or establishing the identity of an object or thing. To evaluate is to

give an assessment or judge. An assumption is an assumption that is accepted as a basis or basis for thinking because it is considered true. So, based on the lexical meaning it can be interpreted.

In the evaluation instrument at BSE Indonesian language class XI for the 2019/2020 academic year, this critical thinking competency has been developed, namely there are 19 questions or 10.1%. Through the ability to think critically in identifying and evaluating an assumption, students are expected to be able to interpret a meaning behind an expression or statement. Students not only understand what is being said, but are also able to identify and assess the specific meaning behind the statement. If this thinking ability is accustomed and trained through the provision of evaluation instruments contained in the BSE, students will become more careful and critical in understanding something.

The aspect of critical thinking of identifying existing biases is establishing a clear identity regarding the bias or ambiguity of a thing. The ability to think critically in identifying these biases will affect individual attitudes regarding acceptance or rejection of information rationally. A person's ability to identify something that is ambiguous will encourage him to be more careful in behaving. Therefore, it is necessary to familiarize students with critical thinking skills so that students will be trained not to easily infer various information that is biased or ambiguous. In the evaluation instrument of BSE Indonesian High School for the 2019/2020 academic year, the thinking ability has been well strived for, namely 19 questions or 10.1% of the total critical thinking instruments as a whole.

Critical thinking about identifying viewpoints is a person's ability to establish identity from a perspective about something that is presented through a text or an event. The ability to think in identifying a point of view can also imply a person's ability to analyze a person's thoughts, both spoken and written so that they can be properly understood. Therefore, this ability can further increase the intimacy and synergy between the two parties. This is as expressed by Quesque, Chabanat, & Rossetti (2018), that the ability to take an efficient perspective is very important to establish social interactions.

The aspect of critical thinking skills in terms of identifying viewpoints has been developed very well in the evaluation instrument at BSE Indonesian high school class XI. There are 100 evaluation instruments or 52.9% of the total critical thinking aspect instruments as a whole. The habituation of students through the provision of evaluation instruments in identifying this point of view will train students to be more careful in carrying out analysis, both written and oral. Thus, the level of students' understanding of information will be very deep. He is able to analyze both textually and intertextually. The habituation or development of this competence through the evaluation instrument in BSE is also in line with the opinion of Conson, Questionzano, Frolli, & Mazzarella (2017), that modulating the simulation process through social environmental factors (textual and intertextual) can influence students' perspective taking.

Critical thinking about evaluating the evidence offered to support recognition is the ability to think critically in the form of a feeling of disbelief in something before it is supported by strong arguments. The ability to doubt something like this is certainly not blind, but rather because it is based on various initial knowledge about something. Thus, this sense of doubt demands strong proof of various information. The number of evaluation instruments relating to critical thinking in evaluating the evidence offered was as much as seven or 3.7% of the overall thinking aspect.

The habituation of students' critical thinking skills related to various aspects of critical thinking as stated above will be able to lead to the formation of students' character. Thus, students will be able to grow with a strong personality or character. Students who have a strong character will not be easily influenced by various information that is not necessarily true. Students will think more carefully by considering various points of view. Strengthening character is very important for students because it is the foundation that is able to bring students to develop well in the future (Rahmayanti, Yarno, & Hermoyo, 2021).

CONCLUSION

Based on the research findings and discussion above, it can be concluded that as many as six aspects of critical thinking skills in the evaluation instrument, there are BSE SMA class XI which have been developed well. The total number of instruments relevant to the development of students' critical thinking skills totaled 189 questions. Critical thinking aspectsdetermine the credibility of a source as much as distinguishing between the relevant from the irrelevant as much as 22 or 11.6%. The aspect of critical thinking identifies and evaluates unspoken assumptions and identifies biases that exist as many as 19 questions or 10.1%. The critical thinking aspect identifies the view as much as 100 questions or 52.9% and the critical thinking aspect evaluates the evidence offered to support as much as 7 questions or 3.7%.

The results of this research can be used as part of an effort to gather information about quality BSE, especially in terms of developing aspects of critical thinking. Through evaluation instruments relevant to the development of critical thinking skills, students will be trained to be able to think more carefully, logically, argumentatively, and constructively. However, in this study there are still several limitations. This research just examines the evaluation instrument contained in one of the BSE Indonesian SMA. Therefore, further research that examines the aspects of critical thinking contained in evaluation instruments in other BSE needs to be carried out in order to obtain more comprehensive data.

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