



Student's Reading Literacy: Opportunities and Characteristic for Instructional Media Development

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ABSTRAK

Di era digital seperti saat ini terlihat bahwa pembaca buku cetak mulai bergeser kepada pembaca buku digital melalui perangkat elektronik, teknologi baru telah membawa manfaat dan peluang yang besar dalam hal mendapatkan informasi yang lebih cepat dan efisien. Tujuan penelitian ini adalah untuk menganalisis kemampuan membaca siswa dan karakteristik media yang dibutuhkan untuk memfasilitasi kegiatan membaca siswa. Penelitian ini menggunakan desain penelitian deskriptif kualitatif, dengan jumlah sampel sebanyak 100 siswa SMA. Teknik pengumpulan data melalui angket dengan instrumennya terdiri atas pertanyaan yang mengacu pada indikator soal-soal PISA untuk mengetahui kesulitan apa saja yang dihadapi siswa dalam mengerjakan tes PISA, hasil angket kemudian dianalisis secara deskriptif menggunakan persentase. Hasil penelitian menunjukkan bahwa secara keseluruhan tingkat kemampuan membaca siswa masih tergolong rendah, melalui angket juga tergambar bahwa siswa sangat tertarik terhadap pengembangan sebuah media pembelajaran, dengan salah satu karakteristik yang menonjol dari media tersebut adalah interaktif. Oleh karena itu siswa memerlukan suatu inovasi berupa pengembangan media pembelajaran yang mengandung ciri-ciri tertentu sesuai dengan perkembangan zaman agar dapat digunakan sebagai sarana untuk mempermudah siswa dalam mengaktifkan kemampuan membaca, keterampilan membaca dan minat baca.

ABSTRACT

In this digital era, it seems that printed book readers are starting to shift to digital book readers through electronic devices, new technology has brought great benefits and opportunities in terms of getting information more quickly and efficiently. This study aims to analyze students' reading ability and the characteristics of the media needed to facilitate students' reading activities. This study used a qualitative descriptive research design, with a sample of 100 high school students. The technique of collecting data is through a questionnaire with the instrument consisting of questions that refer to the indicators of PISA questions to find out what difficulties students face in doing the PISA test, the results of the questionnaire are then analyzed descriptively using percentages. The results showed that the overall level of students' reading ability was still relatively low, through the questionnaire it was also shown that students were very interested in developing a learning media, with one of the prominent characteristics of the media being interactive. Therefore, students need an innovation in the form of developing learning media that contains certain characteristics according to the times so that it can be used as a means to facilitate students in activating reading skills, reading skills and reading interest.

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1. INTRODUCTION

The outbreak of the corona virus (Covid-19) that hit countries in the world presents a new order of life and challenges. To combat the Covid-19 pandemic, the government has implemented a physical distancing policy (Pramana et al., 2021). In the aspect of education, in Indonesia through the Ministry of Education and Culture or Mendikbud (now Mendikbud - Research and Technology), has given directions to schools to implement learning from home and online learning for all levels of education, from basic to advanced (Mulyanti et al., 2020; Wahyu et al., 2021). In fact, during the implementation of online learning, the important thing to note besides the completeness of the facilities is related to learning independence and student motivation to learn (Arifin, 2020; Budiman, 2021). One of the efforts and indicators to be able to find out and follow up on improvements related to student learning independence is to see how students search and find out information relevant to learning activities outside of formal lesson hours (Al Mulhim, 2021; Atmojo et al., 2020). Reading activities from various sources of information, both from books and other information, can be an indicator to obtain data related to student learning independence (Cahya & Artini, 2020; De Corte, 2019). In addition, the

ability to read is also a very important competency to be mastered and is listed in the mandatory competencies for students in the 21st century (Dwi Riyanti et al., 2016; Firat & Koyuncu, 2021).

As a source of information, currently people's views about books are a storehouse of knowledge which now we can say it was an past way to having a knowledge, along with the development of science and technology, the existence of books is being replaced by electronic devices (Okocha, 2020; Saraswati et al., 2019). New technology has brought great benefits and opportunities in terms of getting information faster and in a more efficient way, unfortunately the ease of getting information makes awareness the public about the importance of having the ability to read is getting lost. Meanwhile, reading ability is not measured by the number of words, sentences, or paragraphs that can be read in a certain time unit, reading ability is the ability to process the information obtained (Halili, 2019; Shatri, 2020). In fact, with the presence of information technology, more varied learning resources should make it easier for students or most people to read various relevant and appropriate information. However, some information and discussion questions began to surface regarding the students' reading abilities and interests.

In fact, with the presence of information technology, more varied learning resources should make it easier for students or most people to read various relevant and appropriate information according to their needs (Simuforosa, 2013; Yildiz, 2019). However, some information and discussion questions began to surface regarding the students' reading abilities and interests. Overall, the facts on the ground show that there is still a low level of awareness of educational institutions on the reading ability of their students. This can be shown through the survey results. As various international survey institutions conducted surveys with the wrong focus on reading ability, such as EGRA, PIRLS, and PISA organized by the OECD to measure the extent to which students' reading skills in various countries, reading skills are needed to create society. literates who have high-order thinking skills, namely being able to analyze, evaluate and create (Krathwohl, 2020) in order to be able to compete with the developments of the Society 5.0 era (Nastiti & Abdu, 2020; Sá et al., 2021). In PIRLS the average achievement of reading skills of Indonesian students in 2017 was at a low level below the international median. Data from the PIRLS study were obtained from 4th grade elementary/MI students throughout Indonesia with a total of 937 students, about 51% women and 49% men. To measure the reading ability of 4th grade SD/MI students, PIRLS uses a written test instrument with multiple choice and description formats. The total number of items is 193, consisting of 118 items (61.14%) Multiple Choice (MC) and 75 items (38.86%) descriptions. The next data source is examples of items used to measure students' reading ability in international standards from test books. In PISA the ability to read is referred to as reading literacy. Reading literacy is one of the main skills in an academic environment because a large amount of knowledge is obtained from books, monographs, and written documents. Core competencies in processing information into understanding, the ability to identify, acquire and process information intellectually, as well as to apply, improve and innovate to create new knowledge are of the utmost importance. However, the results of the PISA survey during the period 2000-2018 showed unsatisfactory results, where the average reading literacy score of Indonesian students was always below the average PISA score (OECD, 2020), especially the results of the analysis which showed that Indonesian students on average average is at level 2 of 6 levels of literacy skills reading PISA. PISA reading literacy skills, at this level students are assessed to be able to identify the main ideas of the medium text, find implied information, and can reflect on the purpose and form of the text when directed implicitly (OECD, 2020).

The questions used in the PISA test are the characteristics of the questions used by PISA to measure students' literacy are using long discourse (135-630 words) and question sentences tend to be complex, using multiple choice, complex multiple choice, short answer, and essay types of tests. The texts used can be classified into four categories, namely education, work, personal, and community. To be able to answer PISA questions, good reading skills are needed. Good reading power can be obtained when someone has the ability to understand and interpret texts, resilience to maintain focus, recognize various typologies and text complexity, and maintain reasoning to follow the structure of the text. Through the results of this research, it is seen that there has been no significant improvement since joining the international program, where our students must be recognized as still occupying the lowest rank in literacy skills. Based on the report, it is known that Indonesian students are ranked 74th out of 79 participating countries worldwide in terms of reading skills (OECD, 2020). It can be concluded that Indonesian students still lack literacy skills, especially in basic literacy skills such as reading activities (Khofifah & Ramadan, 2021; Rizaldi et al., 2020). Therefore, as a developing country, Indonesia needs to do a lot of improvement as Indonesian students have lower performance compared to their regional and global counterparts. Otherwise, they will be left behind from the competition for human resources. In fact, increasing students' reading literacy must begin through reading activities that are intensified by every group, both students themselves and from teachers as an effort to set an example. It is well known that through reading, students can obtain information and knowledge in the learning process (Fauzi & Basikin, 2020). In addition, through reading activities as a form of increasing and forming students' reading literacy, teacher assistance will be minimized so that students will then take full roles and responsibilities (Danaei et al., 2020; Fauzi & Basikin, 2020). Thus, students will have a higher ability to be analytical, critical, in understanding, communicating, and using various

forms of information. Thus, students' reading literacy will increase accompanied by students' overall language skills.

The government has made various efforts so that the reading literacy results of Indonesian students can increase in the upcoming PISA, one of which is by holding a reading literacy program, where students are required to read books outside of student books for 15 minutes before learning begins. However, can this effort effectively improve students' reading literacy skills? The data shows that the reading literacy program has a positive influence on students' reading interest, but the results on students' reading literacy have not been measured. To find out the right efforts to improve student literacy, it is necessary to carry out a needs analysis in order to design efforts that are in accordance with the needs. Other efforts that can be made to improve reading literacy skills, one of which is by creating reading habits from an early age, awareness of the importance of reading literacy has grown among families, many parents provide reading books, invite children to read before bed, get children to listen to stories, and listening to children's stories. In Finland, parents prepare many reading books for their children. So that children get used to reading from an early age. Reading habits shape children's skills in processing information, expand children's knowledge, and train reading power. The availability of libraries is also an important thing that the Finnish government pays attention to. So it is not surprising that Finland got a high score when a survey was conducted on reading literacy (Chell et al., 2021; Fauzi & Basikin, 2020). In addition, the innovation that can be done by teachers is to use a more modern way to package information for reading, other than in the form of printed books. As in line with the times, and the characteristics of students who are now accustomed to holding technological equipment (Gil-Flores et al., 2017; Ratheeswari, 2018). As in digital learning media in a module format for learning, where through the use of these media, students showed an increase in mastery of vocabulary in foreign languages.

The development of books packaged in digital format so that they are easy to access either through smartphones or through other digital devices, will also provide open access for students to get used to reading books digitally (Embong et al., 2012; Sofyan et al., 2019; Suwindra, 2012). In addition, several studies related to the use of various innovative and varied methods are also considered capable of contributing to improving reading skills, reading interest, and leading to increasing students' reading literacy (Ho & Lau, 2018; Khofifah & Ramadan, 2021), this is of course can be the first step for educators to be able to try to help improve students' reading literacy skills, without compromising the achievement of the core competencies listed in the learning objectives in each subject. Many efforts can be made to improve reading literacy skills, both from the family environment, teachers at school (Delgadova, 2015; Har et al., 2019), and the government through policies made. In schools, teacher competence has a significant influence on the development of students' reading literacy (Doležalová, 2015; Notanubun, 2019), in addition, the combination of learning strategies and technology is an effective strategy to improve students' reading and writing literacy, various applications are made to help the development of students' reading literacy, including the iWTR method and digital storytelling (Danaei et al., 2020), although technology is able to help students who have become digital natives, for students who are not familiar with technology the use of technology actually hinders the development of reading literacy (Amelia et al., 2021; Fahmi et al., 2021; Istri Utami, 2017).

As a first step, it is important for teachers to conduct a needs analysis to determine at least the characteristics of students, and the availability of facilities and facilities in schools to support learning activities. Therefore, this research is important considering the results of the needs analysis study will later be used as consideration and basis for teachers to design learning according to the objectives. This study will offer a study to open up an innovation space that makes it easier for students to read, where the results of the study will contain a scientific and empirical review of an integration of technology with books as an effort to shape students' reading literacy. Once again, this research study cannot be separated from the importance of reading literacy in forming superior human resources. From the government's point of view, it continues to strive to improve reading skills, interest in reading and information literacy and reading literacy, this must be welcomed by educators or teachers through innovations that teachers can apply in the learning process. Therefore, this research will aim to identify opportunities for using a digital learning media to facilitate learning, and identify students' reading difficulties.

2. METHOD

This research is a qualitative descriptive study using a random sampling method (Salim, 2019). Meanwhile, 100 high school students in Garut Regency were sampled in the implementation of this research. The method of data collection in this research activity consists of a survey. The questions are taken from the Sample task from the PISA 2000 Assessment (OECD., 2002) and the PISA 2020 web (OECD, 2020) adapted to the type of reading test and the type of manuscript tested in PISA. The validity of the instrument in this study uses expert judgment (Widoyoko, 2012), which is carried out to determine the level of validity of the instrument that was developed through indicator items, both indicators of reading literacy and the use of learning media

during learning activities indicator's. The results of the survey aimed at the research sample will then be analyzed, for the research analysis used is descriptive analysis with percentages to be categorized as questions with low, medium and high levels of difficulty related to students' reading literacy, as well as students' views on the form of an ideal learning media to increase students' reading interest. The procedure for carrying out this research consists of several steps, the first step is that students are given a test in the form of three types of PISA text questions to categorize students' ability to solve PISA questions. The manuscripts used in this study were 1 short text, 1 comparison table, and 1 non-continuous manuscript in the form of maps and graphs. The next form of test is a question regarding the use of learning media that has been used so far. The second step is to analyze the items from the students' answers. The last step is to describe based on the answers from students in order to find out students' interest in the development of learning media as a solution to the difficulties or obstacles experienced by students, as well as the potential use of digital learning media in accordance with the development and needs to improve students' reading skills and literacy.

The manuscripts used in this study were 1 short text, 1 comparison table, and 1 non-continuous manuscript in the form of maps and graphs. The questions consist of 8 multiple choice questions with 1 correct point, 0 false and 3 short essay questions with 0-2 points range. So the highest score that can be obtained is 14. Table 1 shows the Cycle 1 Student Learning Outcomes in Cycle 1.

Tabel 1. Table of Cycle 1 Student Learning Outcomes in Cycle 1

Number of Question	Type of Test	Text Form	Type of Question
1	Retrieve information from text	Short Manuscript	Multiple Choice
2	Integrating and interpreting	Short Manuscript	Essay
3	Integrating and interpreting	Short Manuscript	Essay
4	Integrating and interpreting	Short Manuscript	Multiple Choice
5	Reflect and evaluate	Table	Multiple Choice
6	Reflect and evaluate	Table	Essay
7	Reflect and evaluate extensively	Table	Multiple Choice
8	Integrating and interpreting with prior knowledge	Table	Multiple Choice
9	Complex sentences, non-continuous discourse, variables and symbols	Maps and Graph	Multiple Choice
10	Complex sentences, non-continuous discourse, variables and symbols	Maps and Graph	Multiple Choice
11	Complex sentences, non-continuous discourse, variables and symbols	Maps and Graph	Multiple Choice

3. RESULT AND DISCUSSION

Result

This first section will present the results of research on the ability to answer several questions that reflect the reading literacy level of each student. From the results of the study with 100 students, the average score obtained was 6.49 with the highest score of 11 and the lowest score of 2 from the maximum value of 14 with the achievement of each question shown in Figure 1 for multiple choice questions and Figure 2 for essay questions. Question number 1 as many as 50% of students were able to find back information from the short text they read. Question number 3 13% of students gave correct answers, 65% of students gave answers that were close, and 22% of other students gave answers that did not match the PISA score reference. Question number 4 as many as 56% of students are able to integrate and interpret reading in the form of a short script, question number 5 was able to be answered by 28% of students with the type of question reflecting and evaluating the text in the form of a continuous table. Question number 6 32% of students gave correct answers, 38% of students gave answers that were close, and 30% of other students gave answers that did not match the PISA score reference Question number 7 as many as 49% of students are able to reflect and evaluate extensively the text in tabular form. Question number 2 29% of students gave correct answers, 39% of students gave answers that were close, and 32% of other students gave answers that did not match the PISA score reference.

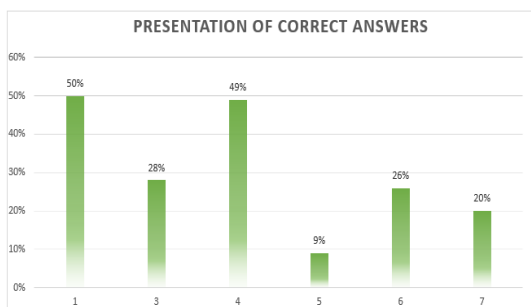


Figure 1. Answers to Multiple Choice Questions

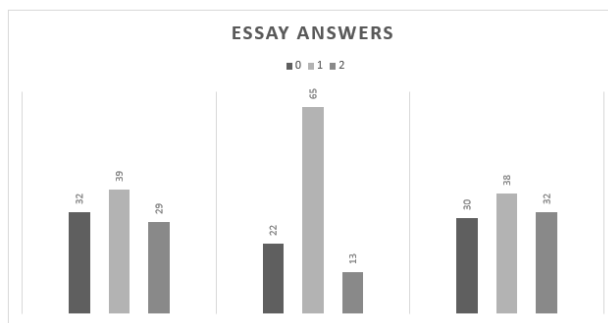


Figure 2. Student Response's Multiple Choice Questions

Question number 8 is a form of reflecting and evaluating the text in the form of a broad table that can only be answered correctly by 9% of students. Question number 9 is a question with a script in the form of maps and diagrams that are non-continuous, 26% of students are able to give the correct answer. Question number 10 47% of students gave correct answers to non-continuous maps and diagrams. Problem number 11 requires an analysis of the combination of information on maps and graphs, only 20% of students gave the correct answer to this question. From the presentation of the research results, it can be concluded that the average student got a score of 6.45 out of a total score of 14 with the lowest score 2 and the highest score being 11, on average students were able to rephrase information from short texts, only 21% of students were able to provide correct essay answers. appropriate in integrating and interpreting texts, 28% of students can reflect and evaluate on continuous table texts with multiple choice questions, 32% of students are able to integrate and interpret texts with their preliminary knowledge so as to provide the right answer, the form of questions reflects and evaluates the text in The broad table form is the most difficult form of the question in this study because it can only be answered correctly by 9% of students. 36.5% of students were able to give correct answers to non-continuous maps and diagrams, and only 20% of students were able to analyze the combination of information on non-continuous maps and graphs. Meanwhile, students also expressed views about the types or characteristics of learning media which according to students were relevant to the times, technological advances and increased student interest in reading activities. As the students' opinions can be seen in Figure 3 and Figure 4.

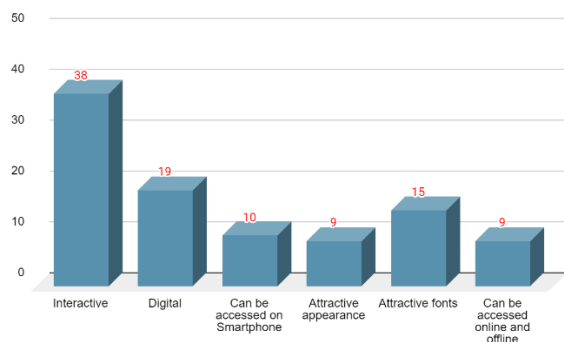


Figure 3. Characteristics of Learning Media Expected by Students

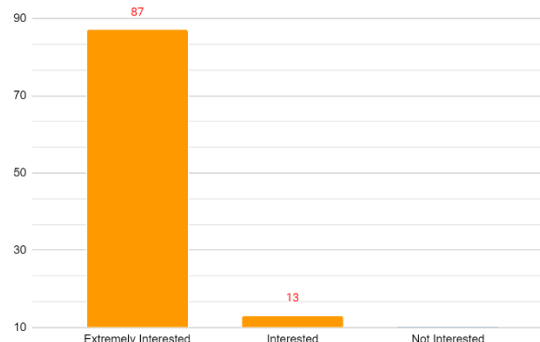


Figure 4. Student Interest in Learning Media Development

Referring to the results of the identification of students' needs related to the development of learning media that can support students' reading skills, it is seen that a number of students stated that they were very interested in the development of these learning media. In addition, students also stated that there were several characteristics of learning media that they thought would be able to attract interest in reading information/materials and even doing assignments. For example, media must have a level of interactivity, be packaged in digital form or format, have fonts that are attractive to read and not rigid, and can be used via smartphones which are currently still one of the devices that accompany individuals during their activities. Results are the main part of scientific articles, containing: *final results* without data analysis process, hypothesis testing results. Results can be presented with tables or graphs, to clarify the results verbally.

Discussion

Based on research data, students' difficulties in doing the PISA test are questions related to reflecting and evaluating text in the form of tables extensively, analyzing the combination of information contained in images and non-continuous graphs, integrating and interpreting text appropriately, and reflecting and evaluating text in the form of continuous table. This type of test can be mastered when a person has good reading skills, has critical thinking skills, and has broad insight. Referring to the reading literacy dimension that PISA develops reading literacy needs to pay attention to the human factor which can be done with the habit of reading with the help of technology and support from the family and school environment, teachers also play an important role in building students' reading habits so that they are able to have good reading literacy (Cahya & Artini, 2020; OECD., 2002), development learning using technology that is designed properly will be able to create reading habits that are easier to do because reading can be packaged into interesting and fun activities, reading habits should be formed from an early age, but there is no harm in making habituation efforts in older students of course with adjustments in the development of learning and the methods and types of technology used are adjusted to the age of the students (Dewi et al., 2019; Setyandaru et al., 2017; Zaheer et al., 2018). After the habit of reading is mastered automatically the text factor will be fulfilled because by having the habit of reading, language complexity can be overcome because students have had a lot of experience dealing with various types of reading formats with various levels of complexity. The results of the needs analysis also show that currently the use of digital technology is still necessary for the means of delivering subject matter, whether in the format of electronic module media, multimedia, audio-visual, animation or others (Ambarsari et al., 2021; Cvetković & Stanojević, 2017). Considering the role of learning media which is indeed quite contributing to the achievement of learning objectives and other skills which are one of the innate impacts of ongoing learning (Amelia et al., 2021; Bayne, 2015; Mahdi, 2018).

The development of books packaged in digital format so that they are easy to access either through smartphones or through other digital devices, will also provide open access for students to get used to reading books digitally (Embong et al., 2012; Sofyan et al., 2019; Suwindra, 2012). In addition, several studies related to the use of various innovative and varied methods are also considered capable of contributing to improving reading skills, reading interest, and leading to increasing students' reading literacy (Ho & Lau, 2018; Khofifah & Ramadan, 2021), this is of course can be the first step for educators to be able to try to help improve students' reading literacy skills, without compromising the achievement of the core competencies listed in the learning objectives in each subject. Many efforts can be made to improve reading literacy skills, both from the family environment, teachers at school (Delgadova, 2015; Har et al., 2019), and the government through policies made. In schools, teacher competence has a significant influence on the development of students' reading literacy (Doležalová, 2015; Notanubun, 2019), in addition, the combination of learning strategies and technology is an effective strategy to improve students' reading and writing literacy, various applications are made to help the development of students' reading literacy, including the iWTR method and digital storytelling (Danaei et al., 2020), although technology is able to help students who have become digital natives, for students who are not familiar with technology the use of technology actually hinders the development of reading literacy (Amelia et al., 2021; Fahmi et al., 2021; Istri Utami, 2017).

Overall, students' reading literacy skills can be increased to a higher level, then the question will arise regarding how activities can make an increase in students' reading literacy. Identification of students' views on several things, such as the use of technology, is one of the points that have been analyzed. As the discussion shows that, learning media currently play an important role in facilitating students to study independently, so it is hoped that it will have an impact on students who tend to be more active in reading and looking for various reference sources. In addition, the characteristics of a media are also conveyed according to students, that it must meet the elements of interactivity, digital and typography that is interesting and not rigid, thus students will be happy to carry out reading activities and will have an impact on increasing reading literacy in each of these individuals. However, this research is still limited to the stage of identifying efforts to improve students' reading skills, not to testing the effectiveness of certain media, models, or learning strategies. Other researchers who have a vision and want to contribute to improving students' reading skills are expected to use this research as a reference regarding the development and use of interactive digital media to continue similar research with more specific and broad goals.

4. CONCLUSION

Students' difficulties in taking the PISA test are questions related to extensive reflection and evaluation of tabular texts, analyzing disjointed combinations of information, integrating and interpreting texts, and developing texts in the form of concatenated tables into notes so that we can continue to work on improving students' reading literacy. It is known from various studies, the use of several media that meet certain

characteristics such as interactive, easy to use, and attractive appearance can be one of the factors driving students' increased interest in reading.

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