

Increasing Student Learning Motivation through the Use of Interactive Digital Books Based on Project Based Learning (PjBL)

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Abstract: This research aims to increase student learning motivation through the use of interactive digital books based on project based learning. Biology learning strategy and design is one of the compulsory subjects that must be taken by students of the biology education study program at the University of PGRI West Sumatra and STKIP Ahlussunnah Bukittinggi. Based on observations made in the class of 2020 students who are taking biology learning strategy and design courses at the Biology Education Study Program at the University of PGRI West Sumatra and STKIP Ahlusunnah Bukittinggi, it was found the following problems, low student motivation in learning, this can be seen from students do not understand the explanation of the material presented by the lecturer, the students feel lazy when studying and do not want to read the material learned in the learning process and the boredom of students when listening to the lecturer explain the subject matter. One way that lecturers can do to increase learning motivation is to use digital books. So that with the digital book, students are expected to have the impetus or drive to carry out learning activities in higher education to achieve the learning goals they want. This research is descriptive qualitative research. The technique of collecting data is using a questionnaire, with 32 students as respondents. Based on the results of the study, it can be concluded that there is an increase in student learning motivation through the use of interactive digital books based on Project Based Learning (PjBL). The results are very high, namely 96.37%.

Keywords: Learning motivation; Interactive digital book; Project Based Learning (PjBL)

Introduction

The biology learning strategy and design course is one of the mandatory courses that must be taken by students of the biology education study program at the University of PGRI West Sumatra and STKIP Ahlussunnah Bukittinggi. This course guides students to be able to choose and try out approaches, methods, models and tools that can be used in teaching a particular subject, apply the components of classroom management and teaching and learning interactions, as well as practice preparing lesson plans (RPP). Based on observations made in the class of 2020 students who are taking biology learning strategy and design courses at the Biology Education Study Program at the University of PGRI, West Sumatra, the following problems were found, the low motivation of students to learn in learning, this can be seen from the students not understanding the explanation of the material. delivered

by the lecturer, the students feel lazy when studying and do not want to read the material learned in the learning process as well as the boredom of students when listening to the lecturer explain the subject matter. According to Ormrod (2019), learning motivation is very important in supporting the achievement of the learning process. Motivation is something that energizes, directs and sustains behavior; motivation keeps students moving, puts them in a certain direction, and keeps them moving).

In the learning process, lecturers and teachers are required to be able to carry out their roles, one of which is the teacher acting as a motivator. As revealed by Hapsari et.al (2021) that the teacher's role as a motivator, in teaching and learning activities motivation is one of the essential dynamic aspects. Often students who are less capable are caused by a lack of motivation in learning where these students do not mobilize all their potential so that they are ultimately considered

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underachievers. Thus, teachers are required to be creative in order to increase their learning motivation. The role of the teacher as an evaluator where as an evaluator the teacher plays a role in collecting data or information about the success of the learning that has been carried out. The characteristics of the curriculum 2013 use a scientific approach and recommend learning that actualizes the full potential of students and arouses motivation (Ahid et al., 2020). As a competent educator, one of the teacher's tasks is to create a comfortable and effective learning environment so that they can optimize the abilities of their students. According to Sedarmayanti (2017) motivation is a mental condition that encourages activity and provides energy that leads to the achievement of needs, satisfying or reducing imbalances

Based on the results of the interviews, students also stated difficulties in understanding the material, because there were no handbooks related to the material presented. Students also only use reading sources obtained from the internet in the form of postings on a blog. There are also students who only rely on power points given by the lecturer. This makes students unable to try out, choose and develop strategies, approaches, methods and models in the learning tools they make.

The same problem was also found in students of the biology education study program at STKIP Ahlusunnah Bukittinggi who had taken biology learning strategy and design courses. However, the use of modules in lectures has not been carried out by lecturers or students. In addition, it was also found the problem of lack of motivation to read and understand the learning materials for the biology learning strategy and design course because they were not interested in the printed teaching materials used by lecturers.

One way that lecturers and teachers can do to increase learning motivation is to use digital books. So that with the existence of digital books, students and students are expected to have the impetus or drive to carry out learning activities at universities or schools to achieve the learning goals they want. That drive or drive is what we call motivation. As expressed by Uno (2021) "motivation is the basic impulse that moves a person to behave, this drive is in someone who moves him to do something in accordance with the impulse in him". If the motivation is strong enough he will decide to do learning activities (Yasin et al., 2020). Correspondingly, Suryabrata (2011) explains, "Motivation is a condition in a person's personality, which encourages him to carry out certain activities in order to achieve a goal". The digital books used can be presented in the form of projects or based on Project Based Learning (PjBL). Because with the project it can increase student learning enthusiasm, improve critical skills and care about the learning process. As stated by Alexander et.al (2022) Lecturers can use project-based E-

books to increase students' enthusiasm for learning. Aufa et.al (2021) with the research title "The Effect of Using e-module Model Problem Baed Learning (PBL) Based on Wetland Environment on Critical Thinking Skills and Environmental Care Attitudes" concluded that there is a positive effect of using the E-module with the PBL model on critical thinking skills and environmental care attitudes. The novelty of this study integrates the wetland environment in the learning process using teaching materials in the form of E-modules in the learning process of the topic of acid-base solutions on critical thinking skills and environmental care attitudes of students. Lestari & Projosantoso (2016) also stated that the PBL model can improve critical thinking skills, creative, analytical and environmental care. This research aims to increase student learning motivation through the use of interactive digital books based on project based learning.

Method

This research is a descriptive qualitative. Descriptive qualitative research is research that aims to collect data, where the data that has been successfully collected is then presented again accompanied by analysis (Sugiyono, 2012). The data source is primary data, where primary data is carried out through the distribution of motivational questionnaires to students of class 2020 Biology education study program at the University of PGRI West Sumatera and STKIP Ahlussunnah Bukittinggi. The steps that will be used in this study are in the form of a questionnaire. The working steps of this research instrument are as follows: 1) The questionnaire used in this study is in the form of questions that will be distributed to each respondent, 2) In actual conditions, respondents are asked to check (√) in the column provided, 3) Respondents are asked to fill the learning motivation questionnaire with the statement structure and alternative answers that have been provided according to the respondent's choice with a score range of 4-0, namely 4 means always, 3 means sometimes, 2 means rarely, 1 means rarely, 0 means never. Research steps as seen in Figure 1.

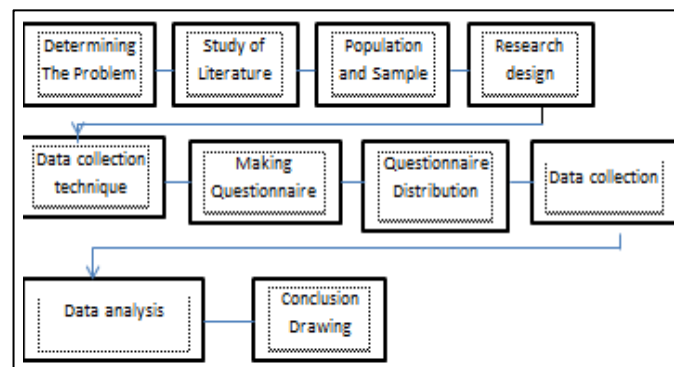


Figure 1. Research Steps

The formula for the analysis of the percentage value of the learning motivation questionnaire score is:

$$P = \frac{F}{N} \times 100\% \tag{1}$$

Information:

P = Percentage number

F = Frequency being searched for the percentage

N = Number of Frequency/respondents (Sudijono, 2015)

Table 1. Achievement of student learning motivation

Achievements (%)	Criteria
81-100	Veryhigh
61-80	high
41-60	Currently
21-40	Low
0-20	Very low

Source;(Iskandar,2010)

Result and Discussion

Based on the results of the distribution of student learning motivation questionnaires that have been carried out on students of the biology education study program at the University of PGRI West Sumatra and STKIP Ahlussunnah Bukittinggi in the biology learning

strategy and design course, in which the questionnaire was distributed to students who are taking biology learning strategy and design courses. at STKIP Ahlussunnah Bukittinggi and PGRI University West Sumatra with a total of 32 students. The student motivation questionnaire consists of 14 statements. Overall, the average student learning motivation is 96.37% with very high criteria. For the percentage of each statement can be seen in Table 2.



Figure 2. Filling a motivational questionnaire by students at the University of PGRI West Sumatera

Table 2. Results of Student Learning Motivation Questionnaire

Statement Items	(%)
I am enthusiastic about participating in biology learning strategy and design lecture activities with the acquisition of	95.31
I feel happy to be present in class on time for biology learning media lecture activities	95.31
I feel that biology learning strategy and design lectures are easier and more interesting by using Project Learning (PjBL) based digital books.	98.43
I understand more quickly and understand biology learning strategy and design lecture activities using Project Learning (PjBL)-based digital books	95,3
Students are able to make conclusions after completing the biology learning strategy and design lecture using Project Learning (PjBL) based modules	94.53
I am able to answer the lecturer's questions during lecture activities using a Project Learning (PjBL) based digital book.	89.84
I am satisfied in carrying out biology learning strategy and design lecture activities using Project Learning (PjBL) based modules	99.21
Students find it easier to understand the material in lecture activities when using a Project Learning (PjBL)-based digital book	97.65
Students listen, listen seriously and earnestly when the lecturer explains the strategy and design of biology learning in lectures.	97.65
Students feel motivated to take part in biology learning strategy and design lectures using Project Learning (PjBL) based modules	99.21
I am motivated to read and understand the material in the Project Learning (PjBL) based module.	99,21
Students feel that the Project Learning (PjBL)-based digital book provided is appropriate and suitable for learning biology learning strategy and design activities	99,21
Students feel that Project Learning (PjBL)-based modules are very practical to use during biology learning strategy and design lecture activities	97,65
Students give their opinion during biology learning strategy and design lecture activities	90,62
Average	96.37%

In the first statement of the student learning motivation questionnaire, it can be seen that students are enthusiastic about participating in biology learning strategy and design lecture activities with a percentage gain of 95.31. The enthusiasm of students taking biology

learning strategy and design lectures at STKIP Ahlussunnah Bukittinggi and PGRI University West Sumatra is supported by a digital book based on Project Learning (PjBL).

In the second questionnaire statement, I feel happy to be present in class on time for lecture activities. strategy and design of biology learning with the percentage results obtained that is 95.31%. This is supported because in the learning process students use digital books that can attract student motivation to be enthusiastic about learning so that they come to class on time.

In the third statement of the questionnaire, namely I feel that teaching biology learning strategies and design is becoming easier and more interesting by using a digital book based on Project Learning (PjBL), the results are obtained with a percentage of 98.43%. This is because the Project Learning (PjBL)-based digital book contains clear and easy steps.

In the fourth statement of the questionnaire, which is that I understand and understand biology learning strategy and design lectures more quickly using Project Learning (PjBL)-based digital books, the percentage is 95.31% with very high criteria. The high percentage obtained is due to the fact that with the digital book students can study independently according to their abilities and can repeat the learning according to their needs.

In the Statement 5 questionnaire statement, namely I was able to make conclusions after completing the biology learning strategy and design lecture using a Project Learning (PjBL)-based digital book, the percentage was 94.53% with very high criteria. This is due to the high awareness of learning by using digital books, so students understand the material being studied so that they are able to make a conclusion at the end of the learning process.

In questionnaire statement 6, namely I was able to answer the lecturer's questions during lecture activities using a Project Learning (PjBL)-based digital book, the percentage was 89.84% with very high criteria. The high percentage obtained in this statement is caused by several things, such as students being able to work actively in small groups to teach each other and help their friends in solving problems or answering a question or completing a project, so that students can build their knowledge independently. According to Dewi (2015) project-based learning can help students collaborate with friends, work together and share responsibilities in completing a project.

In the statement of questionnaire 7. I am satisfied in carrying out biology learning strategy and design lectures using a Project Learning (PjBL)-based digital book, the percentage is 99.21% with very high criteria. This very high percentage gain is because students are given the freedom to choose and express their opinions by determining the project implementation flow contained in the digital book, a project needs to be carefully planned, managed and measured to help students learn the core competencies of implementing

the project, This is in line with the opinion of Dewi (2015) which states that in project-based learning, students go through a long process requiring them to respond to complex questions, problems or challenges. Students are given the freedom to choose and express their opinion. Musrid et.al (2022) PjBL improves students' creative thinking.

In the statement of questionnaire 8, namely I find it easier to understand the material in lecture activities when using a Project Learning (PjBL)-based digital book, the percentage is 97.65% with very high criteria. This is because digital books do not only contain reading text, but also contain various kinds of media that can be accessed by students in an interactive way. Students can explore the digital book while watching videos, listening to audio, playing with interactive images and others. In line with Febrianti's opinion, F (2021) Digital book is a book with an electronic version, which contains various multimedia such as audio, visual, to allow interactive in it.

In the statement of questionnaire 9, that is, I listened, listened seriously and seriously when the lecturer explained the strategy and design of biology learning in lectures. Obtained a percentage of 97.65%. This indicates that with the existence of project-based digital books, students can improve their skills in the learning process. According to Shukri et. al (2021) that project-based in feasible for used to improve student's science process skills in dynamic fluid materials.

In the statement of questionnaire 10, that is, I feel motivated to participate in biology learning strategy and design lectures using Project Learning (PjBL)-based digital books with a percentage of 99.21%. Artiya students are very happy with the existence of digital books that can create a more interesting learning experience and are very useful for these students so that in the learning process students become more active by themselves. In line with that, Trianto (2011) states that the project-based learning model has enormous potential to get a more interesting and beneficial learning experience for students. Students' different abilities require conditions involving learning experiences that develop their potential for creative thinking (Al-Husban, 2020; Kilinc et al., 2018; Yusnaeni et al., 2017).

In the statement of questionnaire 11, that is, I am motivated to read and understand the material in the Project Learning (PjBL) based module 99.21%. According to Wirasasmita and Uska (2017), technological sophistication has changed people's habits of reading. Reading used to have to bring a book, but now reading can be done digitally in the form of a Digital Book. Susanti et.al (2021) also stated that Interactive electronic books are the best alternative that can contribute to improving reading comprehension and reading interest.

In the statement of questionnaire 12, namely, I feel that the Project Learning (PjBL)-based digital book provided is appropriate and suitable for biology learning strategy and design lecture activities. The percentage result obtained is 99.21%. This shows that the existence of Project Learning (PjBL)-based digital books can increase student activities, because there are projects that must be completed by students so that the learning process can be said to be more meaningful for them. Susanti et. al (2020) stated that project-based learning can increase student activity, project-based interactive e-books as one of the teaching materials that emphasize more on activities carried out by students which aim to produce more meaningful learning. According to Afriana (2016), project-based learning is a student-centered knowledge model and provides a meaningful learning experience for students.

In the statement of questionnaire 13, namely I feel that the Project Learning (PjBL)-based module is very practical to use when teaching biology learning design and strategy activities, the percentage is 97.65% with very high criteria. This high percentage result is obtained because this digital book can be stored anywhere, such as flash drives, smartphones, etc. According to Syofyan and Tomi (2019) E-books are very easy to carry in many files.

For the last statement, which is questionnaire 14, I gave my opinion during the strategy and design learning biology lecture activities, the percentage was 90.62% with very high criteria. This proves that with the enthusiasm for learning and the desire to learn, students are able to provide opinions according to their knowledge and understanding. In line with the opinion of Widiantini (2014) that project-based learning is a learning strategy that empowers students to gain new knowledge and understanding based on their experiences through various presentations.

So, from the overall questionnaire statements 1 to 14, the percentage results are obtained with a range that is not much different, but is still in very high criteria.

Conclusion

Based on the results of research that has been carried out, it can be concluded that there is an increase in student learning motivation through the use of interactive digital books based on Project Based Learning (PjBL) with a very high percentage of 96.37%.

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