

## The Effect of Student Participation through the Use of Online Learning Platforms in improving student learning outcomes

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### ABSTRACT

**Background.** Along with the development of the times, the learning process in education is increasingly advanced. Especially in this digital era, where the use of online learning platforms is rampant, it is used as an alternative to improve learning effectiveness. The main aspect of using this online learning platform is student participation.

**Purpose.** The purpose of this study is to determine the effect of student participation on the use of online learning platforms in terms of improving student learning outcomes.

**Method.** The method used in this study uses a quantitative approach. The research data was obtained from the results of questionnaire filling by students. The sample used in this study is students in schools that use online learning platforms.

**Results.** The results of this study show that with student participation in learning using online learning platforms can improve student learning outcomes. On average, students provide active participation when learning takes place using the online learning platform.

**Conclusion.** The conclusion of this research is that there is student participation through the use of online learning platforms which has a positive influence on students in terms of improving student learning outcomes continuously. Therefore, an educator must be more able to encourage students to participate more actively in learning and introduce students to online learning platforms. The limitation of this study is that researchers did not go directly to schools to conduct research but rather by distributing questionnaires.

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### KEYWORDS

Learning Outcomes, Online Learning Platform , Student Participation.

### INTRODUCTION

Education is the foundation for the development of individuals and society as a whole (Agarwal & Linh, 2021). In an effort to ensure educational effectiveness, it is important to understand the learning processes involved. The learning process is a complex concept that involves interactions between various factors, including teachers, students, learning materials, learning environments, as well as various learning strategies and method (Bauer dkk., 2018).



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learning materials, learning environments, as well as various learning strategies and methods (Bauer dkk., 2018). In it, there are dynamics involving the process of receiving, understanding, and applying information or knowledge learned by students. In a broader view, the learning process also includes the development of skills, attitudes and values that are important for the holistic development of individuals (Bell, 2010). The importance of understanding the learning process becomes even more crucial in this digital era, where technology has influenced almost every aspect of life, including education. Technology has brought about changes in the way information is accessed, presented and processed (Bauer dkk., 2018). The use of technology in learning has given rise to the concept of online learning, which has opened the door for various innovations in the learning process (Aceto dkk., 2019). Online learning platforms offer greater flexibility and accessibility to learning materials, allowing students to learn anytime and anywhere according to their needs.

### **Student Participation**

Student participation can be defined as the level of student involvement or activity in the learning process. This includes actively accessing learning materials, participating in online discussions, completing assignments, and interacting with learning content. The level of student participation can vary depending on various factors, including student motivation, learning design, as well as external factors such as family support and learning environment (Alsawaier, 2018). To measure the extent to which students' participation through the use of online learning platforms affects their learning outcomes, empirical research is crucial. This research can provide valuable insights for educators, policy makers and education practitioners in understanding the dynamics of the learning process in the context of digital technology (Andrae & Edler, 2015). Through this research, we can identify strategies and best practices in utilizing online learning platforms to significantly improve student learning outcomes (Alghazzawi dkk., 2021). In the context of this study, it will investigate the effect of students' participation through the use of online learning platforms on improving their learning outcomes. Through a quantitative approach with an experimental design, we will collect data regarding students' participation and their learning outcomes before and after the use of the online learning platform (Smith & Hasan, 2020). The results of this study are expected to contribute significantly to our understanding of how technology can be used effectively in supporting effective learning processes in this digital era.

### **Online Learning Platform**

Online learning platforms have become one of the most important innovations in modern education (Adeyeye dkk., 2022). With the advancement of information and communication technology, such platforms have revolutionized the way of learning and teaching. Along with the development of the internet and technology, online learning platforms have transcended geographical boundaries and provided wider access to education for millions of people around the world. This phenomenon not only affects students, but also educators, educational institutions, and even the world of work. With online learning platforms, students can access course materials, quizzes, discussions, and other educational resources anytime and anywhere, with just an internet connection (Chirikov dkk., 2020). The history of online learning platforms dates back to the early years of the internet, when universities and educational institutions started experimenting with the concept of distance learning. One important milestone in this history was the birth of the World Wide Web in the 1990s, which opened the door for the development of more interactive and accessible online education platforms. Then, in the early 21st century, platforms such as Khan

Academy, Coursera, and edX emerged, providing online courses on topics ranging from basic math to computer science.

The main benefit of an online learning platform is its wide accessibility. With this platform, students are no longer limited by geographical distance or time constraints (Ferri dkk., 2020). They can study according to their own pace and schedule, without having to sacrifice other commitments such as work or family. In addition, online learning platforms also offer flexibility in subject selection and difficulty level, allowing each individual to learn according to their interests and needs. Furthermore, online learning platforms also allow for interaction between students and instructors from different parts of the world (Kew & Tasir, 2022). This creates a more inclusive and multicultural learning environment, where students can learn from the experiences and viewpoints of others who may differ from them. In addition, many online learning platforms also offer collaborative features such as discussion forums and group projects (Blumenfeld dkk., 1991), which allow students to learn together and strengthen their understanding.

However, while online learning platforms offer many benefits, there are also some challenges that need to be addressed (Lo & Hew, 2020). One of the main challenges is the issue of internet accessibility. Although the internet is increasingly widespread, there are still many areas of the world that do not have stable or affordable access to the internet (Andronie dkk., 2021). This means that most of the benefits of online learning platforms cannot be enjoyed by those living in those areas (Rostiani dkk., 2023). In addition, there is also the issue of authenticity and security in online learning platforms. With the ease of accessing information on the internet, there is a risk that students may copy others' work or use unauthorized resources in their assignments. Therefore, it is important for educational institutions and online learning platforms to implement policies and technologies that can prevent plagiarism and guarantee academic integrity. In addition to these challenges, there are still some issues that need to be addressed in the future development of online learning platforms. One of them is the issue of content curation. With so many courses and materials available on the internet, it is important to ensure that the content presented by online learning platforms is accurate, relevant and of high quality. This requires cooperation between platforms, instructors, and academic institutions to review and evaluate the materials presented.

### **Student Learning Outcomes**

The importance of understanding and measuring student learning outcomes has become a major focus in education. Student learning outcomes reflect the extent to which students have understood the subject matter, mastered certain skills and achieved set learning objectives (Essel dkk., 2022). This introduction will explain the importance of student learning outcomes, the factors that influence them, as well as various approaches in measuring and improving student learning outcomes. First of all, student learning outcomes are a measure of the success of the education system (Asim & Kumar, 2018). Student learning outcomes include not only academic achievement, but also the development of important social, emotional and life skills. When students achieve good learning outcomes, it reflects the effectiveness of teaching strategies, a well-designed curriculum and the support provided by the learning environment (Turugare & Rudhumbu, 2020). Therefore, understanding the factors that influence student learning outcomes is important for educators and policy makers to ensure that every student has an equal opportunity to succeed in education.

There are various factors that can affect student learning outcomes, both internally and externally. Internal factors include individual intelligence, motivation, interest and learning style. Each student has their own unique characteristics that can affect how they learn and respond to teaching. Meanwhile, external factors include the learning environment, family support, availability

of resources and quality of teaching. A supportive and motivating learning environment can improve student learning outcomes, while a lack of support or resources can be a barrier to academic achievement. To measure student learning outcomes, educators use a variety of evaluation approaches and tools. Traditional approaches such as exams and written assignments remain a commonly used method to measure students' understanding of subject matter. However, other approaches such as skill-based projects, presentations, portfolios and formative assessments are also gaining popularity as they provide a more comprehensive picture of students' abilities. In addition, the use of technology in learning has opened the door to the development of more interactive and adaptive evaluation tools, which allow for better customization to students' individual needs.

In addition to measuring learning outcomes, it is also important to develop strategies that can improve student learning outcomes (Guo dkk., 2020). One effective approach is teaching differentiation, where educators provide learning that is tailored to the needs and ability levels of individual students. This can be done by using a variety of teaching strategies, diverse resources and providing additional support for students who need it. In addition, students' active involvement in the learning process is also important to improve learning outcomes. Collaborative activities, discussions and application of concepts in real situations can help students strengthen their understanding and develop critical thinking skills (Durall Gazulla dkk., 2023). In today's digital era, technology can also be a powerful tool in improving student learning outcomes (Abdulkadyrov dkk., 2019). The use of online learning platforms, learning apps and educational games can make learning more interactive, fun and engaging for students. In addition, technology also allows for better tracking and analysis of data on student progress, allowing educators to provide more timely and relevant feedback.

There are several previous research opinions regarding the use of online learning platforms in schools. The first research is according to Darmawan, (2020), with the research title *The Effect Of Using Kahoot On Learning Outcomes In Biology Scope Material*. The results of his research state that Based on the results of the analysis found the results of the Sig. (2-tailed) of  $0.00 < 0.05$ , it can be concluded that there is a significant difference in the average student learning outcomes between the use of Kahoot (experimental class) and without the use of Kahoot (Control class). The average post test score of the experimental class with the use of Kahoot was 85.21 while the average in the Control class was 76.72 so that there was an increase in the average value of 8.49 by using Kahoot in the material scope of biology. The use of Kahoot to improve learning outcomes can be applied to other materials. The second research according to Ardiansyah & Nana, (2020), with the research title *The Role of Mobile Learning as an Innovation in Improving Student Learning Outcomes in School Learning*. The results of his research state that mobile learning (Android-based application media) on student learning outcomes in learning can be a solution to problems encountered in the teaching and learning process in the classroom. Learning using learning media in the form of Android-based applications can enable student participation in class and can even access it at home or anywhere. The third research according to Mattawang & Syarif, (2023), with the research title *Impact Of Using Kahoot As A Gamification Platform In The Learning Process*. The results of his research state that The use of Kahoot in high school students' learning has a positive impact. By increasing learning achievement, generating learning motivation, making it easier to master material, and attracting students' interest in learning, Kahoot can be an effective tool for improving learning in high school classes.

Based on the results of previous research, it is different from the research that the researchers conducted. The researcher's research is entitled *The Effect of Student Participation through the Use of Online Learning Platforms in improving student learning outcomes*. The results of this study

indicate that with student participation in learning using online learning platforms can improve student learning outcomes. On average, students provide active participation when learning takes place using an online learning platform.

## RESEARCH METHODOLOGY

This research method uses a research method with a quantitative approach. Quantitative research method is a scientific approach used to collect data that can be measured quantitatively and analyze it using statistical techniques (Léonard dkk., 2020). This method aims to identify patterns, relationships, and trends in the data, as well as test proposed hypotheses or theories. The main advantages of quantitative research methods are their ability to provide broader generalizations and objectively measurable results (Guillén-Gámez & Mayorga-Fernández, 2020). One important aspect of quantitative research methods is the systematic and structured research design. This research design includes selecting a representative sample, using valid and reliable instruments, and collecting consistent and objective data. With a good research design, researchers can ensure that the data collected is reliable to answer the research questions posed. This research design uses a survey research design. The survey was conducted by distributing questionnaires to students .

In conducting research it is important to determine the population and sample in the study (Peitzmeier dkk., 2020). The population in this study were all students at the school. While the sample is all class X students. This population selection aims to focus research on groups that are relevant to the research topic. The determined population will be the basis for selecting samples that will be studied further. This research instrument is a questionnaire. The questionnaire is used to measure the level of student participation in the use of online learning platforms. This questionnaire will be designed to find out the extent to which students are involved in online learning activities, such as accessing course materials, completing assignments, participating in discussions, and using various features provided by the platform. The questionnaire will use a Likert scale to assess the level of student participation, with answer options ranging from "Very Low" to "Very High".

The research steps will include several stages to collect data, analyze the data, and draw conclusions from the research findings. The first stage is research preparation, where the researcher will design the questionnaires and tests, as well as collect the necessary permissions and approvals from the authorized parties, such as the schools or educational institutions concerned. Next, the research will be conducted by distributing questionnaires to a sample of students who have been randomly selected from the specified population. The questionnaires will be filled out by the students independently and will be given clear instructions on how to fill out the questionnaires correctly. After that, students will take a test or exam to measure their learning outcomes. Once the data is collected, the next step is to analyze the data using appropriate statistical methods. Statistical analysis commonly used in quantitative research such as linear regression analysis or analysis of variance (ANOVA) can be used to identify the relationship between students' participation in the use of online learning platforms and students' learning outcomes. In addition, correlation analysis can be used to determine how strong the relationship between the two variables is. After the data analysis is completed, the researcher will draw conclusions based on the research findings and compile a research report that includes a summary of findings, interpretation of results, practical implications, and suggestions for future research. This research report can be used as a basis for developing strategies and policies to improve the use of online learning platforms and student learning outcomes at different levels of education.



## RESULT AND DISCUSSION

The use of online learning platforms has become an important part of the learning process at various levels of education, with great potential to improve students' participation and their learning outcomes. The discussion of the influence of student participation through the use of online learning platforms in improving student learning outcomes is becoming increasingly relevant in the evolving context of modern education. In this paragraph, we will discuss in depth the various aspects and implications of this phenomenon. First of all, it is important to understand that student participation is one of the key elements in an effective learning process. Student participation includes not only physical presence in the classroom, but also active engagement in learning activities. The use of online learning platforms allows students to engage more flexibly and interactively in the learning process, where they can access learning materials, complete assignments, participate in discussions, and get feedback from teachers and fellow students without strict time and place restrictions. Thus, students' participation through the use of online learning platform can create a more dynamic and inclusive learning environment, where every student has equal opportunity to learn and contribute.

The use of online learning platforms can also facilitate learning that is personalized and tailored to students' individual needs. Such platforms are often equipped with features that allow teachers to track students' progress and activities individually, so that they can provide timely and relevant guidance and feedback. This can help students to identify their weaknesses and focus on areas that require additional attention, thereby improving the effectiveness of their learning. In addition, the use of artificial intelligence algorithms and technologies in online learning platforms can also generate personalized recommendations for students based on their learning patterns and preferences, thus increasing their motivation and interest in learning. Not only that, the use of online learning platforms can also open up educational accessibility for students who have special challenges or needs. For example, students with physical disabilities or limited mobility can access learning materials and participate in learning activities through online platforms without experiencing significant physical barriers. In addition, online learning platforms can also provide additional support for students who need differentiated learning or extra help in understanding the subject matter. Thus, the use of online learning platforms can help improve inclusion and equity in education, and provide greater opportunities for all students to achieve academic success.

To find out the level of student participation in the effects of using online learning platforms in improving student learning outcomes, researchers made 10 statements. The statement was made into a questionnaire. The questionnaire in the form of a statement was made through Google Form. Then the questionnaire was distributed to all students who had used the online learning platform in the learning process. Based on the questionnaire, the results can be obtained as in the table below.

NO	Forms of participation	Participation		
		Low	Medium	High
1	Students actively access modules or learning materials provided in the online learning platform.		50%	
2	Students complete assignments and exercises provided through the online learning platform to strengthen their understanding of the course material.			75%
3	Students actively participate in discussion forums or chat rooms to share ideas, ask questions, and discuss with teachers and fellow students.			73%

4	Students use search or reference features within the platform to find additional learning resources that support their understanding.		60%	
5	Students take online exams or evaluations administered through the platform to measure their understanding and skills in the course material.			74%
6	Students work in groups or teams to complete collaborative projects or assignments assigned through online learning platforms.		50%	
7	Students use interactive features such as interactive quizzes, simulations, or learning videos to strengthen their understanding of the course material.			75%
8	Students deliver their presentations or projects online through the platform to share their knowledge and work results with fellow students.			75%
9	Students provide constructive feedback on assignments or fellow students' work posted via online learning platforms.			70%
10	Students take notes or summaries of the course material they learn through the platform to help strengthen understanding and prepare for exams.		65%	

**Table 1:** Forms of student participation through the use of online learning platforms in improving student learning outcomes.

Based on the statement above, it can be explained that the first question is students actively access modules or learning materials provided in the online learning platform obtained a response with 50% student participation in the medium participation category. The second statement is students complete assignments and exercises provided through the online learning platform to strengthen their understanding of the course material obtained a response with 75% student participation in the high participation category. The third statement is students actively participate in discussion forums or chat rooms to share ideas, ask questions, and discuss with teachers and fellow students obtained a response with 73% student participation in the high participation category. The fourth statement is students use search or reference features within the platform to find additional learning resources that support their understanding obtained a response with 60% student participation in the medium participation category. The fifth statement is students take online exams or evaluations administered through the platform to measure their understanding and skills in the course material obtained a response with 74% student participation in the high participation category.

The next sixth statement is students work in groups or teams to complete collaborative projects or assignments assigned through online learning platforms obtained a response with 50% student participation in the medium participation category. The seventh statement is students use interactive features such as interactive quizzes, simulations, or learning videos to strengthen their understanding of the course material obtained a response with 75% student participation in the high participation category. The eighth statement is students deliver their presentations or projects online through the platform to share their knowledge and work results with fellow students obtained a

response with 75% student participation in the high participation category. The nine statement is students provide constructive feedback on assignments or fellow students' work posted via online learning platforms obtained a response with 70% student participation in the high participation category. The last statement viz students take notes or summaries of the course material they learn through the platform to help strengthen understanding and prepare for exams obtained a response with 65% student participation in the medium participation category. Based on the results of the responses given by students to questionnaires in the form of questionnaires, the average student gave a high response to the use of online learning platforms. This is proven by the participation shown by students in using online learning platforms which can improve student learning outcomes.

## CONCLUSION

The conclusion of this research explains that online learning platforms have opened up opportunities for transformation in the way students learn and actively participate in the education process. Through the use of online learning technology, students can access learning materials from anywhere and anytime, reducing geographical and time barriers that often become obstacles in conventional learning. With the online learning platform, student participation can be enhanced through various features such as discussion forums, interactive quizzes, and collaboration in virtual joint projects. The main positive impact of students' participation through online learning platforms is their increased engagement in the learning process. With more active interaction between students and learning materials, they tend to be more engaged and interested in understanding the concepts taught. Online discussions, forums and other collaborative activities allow students to exchange ideas, ask questions and deepen their understanding, which in turn can improve their learning outcomes. In addition, online learning platforms often provide a variety of additional resources such as learning videos, articles and interactive exercises that can help students strengthen their understanding of the learning material. Student participation through online learning platforms can enrich their learning experience through the various features provided. This can help students maintain their interest in learning and reduce the level of boredom that often occurs in learning.

## AUTHORS' CONTRIBUTION

*Look this example below:*

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

Author 5: Supervision; Validation.

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