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Effectiveness of Nearpod Learning Media to Increase Student Participation

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Abstract: This research aims to test the effectiveness of Nearpod media in increasing student participation. The method used is quantitative with a pre-experiment design, namely One Group Pretest-Posttest design. The sampling technique used the Slovin formula, with a total sample of 23 class 3B students at SDN Kandangan 1 Ngawi. This research was conducted for approximately 3 weeks, with data collection in two ways: first, giving a pre-test in the form of a questionnaire before being given treatment, and second, giving a post-test after being given treatment. Data were analyzed using the normality test and T test. The results of the research showed that there was a change in the use of Nearpod media to increase student participation, as evidenced by the HO test results being rejected and Ha being accepted, because the Sig. (2-tailed) of 0.000<0.05. Thus, it can be concluded that the use of Nearpod media has succeeded in increasing student participation.
Keywords: effectiveness, nearpod, improvement, participation.

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Introduction

The COVID-19 pandemic is one of the factors causing many students not to complete their education in Indonesia. Regulation no. 4/2020 regulates the implementation of education policies during the coronavirus (COVID-19) pandemic. The main aspect of this regulation is the implementation of online or distance learning in schools, which aims to ensure students receive the best learning experience (Minsih et al., 2021). This pandemic has exacerbated disparities in access to education due to differences in digital infrastructure and economic capabilities. Education is a process of continuous learning and growth with the aim of meeting the needs of students and teachers, including their own needs (Dewi et al., 2023). Through education, students can develop skills and knowledge that are relevant to their lives, while teachers also have the opportunity to continue to improve their competence in educating.

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Technology is one of the most important factors in educational transformation, such as the need to improve learning and teaching methods (Andriani et al., 2015). The use of digital technology in the learning process can make learning active, build knowledge, solve problems, and explore knowledge in depth (Belva Saskia Permana et al., 2024). One of the most visible impacts of technological advances in the field of education is the increasing diversity of students in the classroom. Thanks to these advances, classrooms are becoming more inclusive, providing opportunities for students from different geographic regions and socio-economic conditions to learn together. In addition, technology also makes it possible to adapt teaching methods, so that students' individual needs can be better met. As a result, the learning environment becomes richer, more interactive and open to everyone ((Almas Ghozali & Yudha Irawan, 2024).

According to Arsyad in (Dewi et al., 2023), one of the tools used to keep students active during learning activities is media. Learning is a communication process that involves students, teachers, and educational materials. The use of educational media is a very important means to improve the learning process and must be in line with the progress of the Industrial 4.0 era. These media must also be carefully considered regarding the characteristics of students who tend to use gadgets and want help from teachers (Oktaviani & Nurhamidah, 2023). The success of the learning process depends on choosing the right media (Gustini et al., 2023). Effective media can help clarify material, attract student interest, and facilitate deeper understanding.

According to (Anam et al., 2021), the integration of technology-based educational media can improve the learning experience by making learning more interesting while helping teachers convey material more effectively and helping students understand concepts more easily. Selecting the right media allows teachers to create an interactive and dynamic learning environment, which ultimately increases student engagement and improves learning outcomes. Technology such as educational videos and interactive media can help students understand concepts more easily, increase interest in subject matter, and improve critical thinking skills. According to (Ningsih et al., 2023), Information and Communication Technology (ICT)-based media contributed 32.89% to increasing student biology learning outcomes.

One of the interactive learning media in this research is Nearpod media. According to Erita in (Nabilah, 2024), Nearpod is a digital platform that encourages bold and interesting learning and allows continuous interaction with students. Through Nearpod, teachers can easily access and explain lesson material, both in the classroom and during open and adventurous learning outside the classroom. This supports a learning process that is more interactive and easily accessible anywhere (Pramesti & Camellia, 2024). This platform also provides hundreds of quality learning materials presented in various forms, such as modules, videos, interactive animations, and other formats. With the help of this media, students can learn in an interesting way that can be adapted to their individual needs and learning styles (Stai et al., 2023).

With a variety of learning formats and methods such as videos, interactive modules, and animated simulations, students can more easily understand complex concepts. It also helps them explore topics in the way that best suits them, whether through visual, audio or practical experiences, making learning more effective and enjoyable. Apart from offering flexibility in learning material, Nearpod is also effective in increasing students' empathetic behavior. According to research, this platform can increase student retention by providing an interactive and engaging learning experience,

as found in the use of Nearpod in pedagogical materials, where student retention rates increased significantly when compared to traditional methods (Nurmailia et al., 2024).

To make learning interesting, creative and fun, student involvement is very important. Students can more easily understand the theories being taught and have the ability to explain concepts they have understood or not yet understood by participating. This active participation also helps strengthen their understanding and encourages in-depth discussion and exploration of the material (Nissa et al., 2021). In this research, participation refers to student involvement, namely the extent to which students contribute or play an active role in various activities during the learning process. Learning participation includes students' willingness and involvement, which not only includes physical and mental aspects, but also reflects their social interactions during learning (Wahyuni et al., 2022).

This participation means that students are actively present in learning activities, paying full attention, and being involved in discussions and collaboration with classmates. Through this physical, mental and social engagement, students can contribute more holistically, enriching their own learning experiences and supporting positive and collaborative classroom dynamics. Through students' active participation in the learning process, various benefits can be obtained. Several studies show that student engagement supports democratic learning, creates an environment that has a sense of community, and increases intrinsic motivation to learn (Bergmark & Westman, 2018). In a social context, student involvement creates a learning environment that fosters interaction, an attitude of responsibility, and collective awareness, all of which are important for creating a constructive school environment (Triyanto, 2019).

However, in practice, student participation in learning is still relatively low. Based on initial observations carried out in class VI at SDN This shows the need for a more interactive and engaging learning approach to increase student engagement. So far, there have been many studies discussing the effectiveness of using Nearpod, such as research by (Oktaviani & Nurhamidah, 2023), (Rifa & Nurhamidah, 2024), (Biassari et al., n.d.), and (Ami, 2021). However, in general these studies focus on the effectiveness of Nearpod in improving student learning outcomes. In other words, research regarding the effectiveness of Nearpod educational media in increasing student participation specifically has not yet been explored in depth.

Therefore, the aim of this research is to test whether the use of Nearpod media can increase student participation in learning, especially in material on the life cycle of living things in class VI elementary schools.

Method

This research uses a quantitative approach by design *pre-experimental* type *one-group pretest-posttest design*. This design involves initial measurements (pretest) before the intervention (O1), administration of treatment/intervention (X), and final measurements (posttest) after the intervention (O2). The intervention used in this research was media *Nearpod* as a tool for problem-based learning (Zulfa Firstya Noor & Subuh Anggoro, 2024). Using Nearpod has been proven to increase students' critical thinking capacity.

The population in this study was all 23 class 3B students at SDN Kandangan 1. Because the population is relatively small, the entire population was used as the research sample using the Slovin formula. The instrument used in this research was a student participation questionnaire which was

given before (pretest) and after (posttest) the treatment**.** This instrument was developed by the researcher himself based on learning participation indicators obtained from theory and expert opinions. The instrument development process includes preparing a grid, validating the content by experts, as well as limited trials to test the validity and reliability of the instrument before it is used in main research.

The research procedure began with determining the location and research subject, namely class 3B of SDN Kandangan 1. Next, the researcher prepared a questionnaire instrument based on indicators of learning participation. Learning activities were carried out in two meetings using Nearpod media as treatment. The pretest was administered before the intervention, and the posttest was administered after the intervention using the same instrument to determine any changes in student participation levels. The validity test results reached a value above 0.433 so that the validity was declared, after that the reliability test was carried out using the Cronbach's Alpha formula. The test results show that the Cronbach's Alpha value is 0.858, which means this instrument is in the very reliable category (value > 0.70).

The pretest and posttest data were analyzed using SPSS version 25 software. Data analysis was carried out using tests *paired sample t-test* because the data is normally distributed. If the posttest score shows a significant increase compared to the pretest, it can be concluded that the use of Nearpod media is effective in increasing student participation in learning.

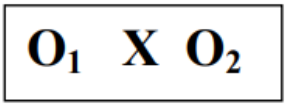

Figure 1. Research Design

Information:
X = Treatment with nearpod media
O1 = experimental group pretest
O2 = experimental group posttest

Results

A. Normality Test

Table 1. Pretest posttest Normality Test

Variable	N	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.	Distribution
DifferencePretest−Posttest (MediaNearpod)	23	.200	.327	Normal
DifferencePretest−Posttest (Student Participation)	23	.200	.571	Normal

Table 1 above with the help of SPSS 25 analysis obtained calculations to test normality in the Shapiro-Wilk column. From the calculation table above, the sig values in the media and participation posttest with a df of 23 each have a sig of 0.327 and 0.571 > 0.05. With these results, the pretest posttest difference data is normally distributed.

B. Homogeneity Test

Table 2. Pretest posttest homogeneity test

Variable	N	Levene's Test Say.	Conclusion
Pretest–Posttest (MediaNearpod)	23	0.628	Homogeneous
Pretest–Posttest (PartisipasiSiswa)	23	0.744	Homogeneous

The homogeneity test was carried out to determine whether the data variance between the pretest and posttest groups was homogeneous. This test was carried out using Levene's Test for Equality of Variances via SPSS version 25. The decision making criteria is if the significance value (Sig.) > 0.05, then the data is considered to have homogeneous variance.

The test results show that the significance value for both variables (Use of Nearpod media and student participation) is greater than 0.05, so it is concluded that the data has a significant variance. homogeneous**.**

C. Paired Sample Test

Table 3. Test Results *Paired Sample t-test* between Pretest and Posttest on Nearpod Media and Student Participation

Variable Pairs	*t*	*df*	*p*(2-tailed)	Average difference	95% CI Difference (Lower – Upper)
Pretest Media – Posttest Media	-11.351	22	.000	2.462	-6.891 – -4.762
Participation Pretest – Participation Posttest	-7.401	22	.000	6.987	-13.804 – -7.761

Based on the results of the paired sample t-test shown in Table 2, a significance value of .000 ($p < .05$) was obtained for both variables, namely the use of Nearpod media and student participation. Thus, the null hypothesis (H_o) is rejected and the alternative hypothesis (H_a) is accepted, which means there is a statistically significant difference between the pretest and posttest scores.

These results mean that Nearpod media has a positive influence on student participation. The average participation score increased after implementing Nearpod media, which shows that the use of this media is effective in increasing student involvement in the learning process.

E. Uji N-Gain Score

Table 4. N-Gain Score Test Results

Variable	N	Minimum	Maximum	Mean	SD
N-Gain Score Media Nearpod	23	0.22	1.00	0.6175	0.2145
Nearpod Media's N-Gain Score (Percentage)	23	22.22	100.00	61.7529	21.4463
N-Gain Score Student Participation	23	-0.57	1.00	0.5265	0.3995
N-Gain Score Participation (Percentage)	23	-57.14	100.00	52.6529	39.9518

The results of the N-Gain Score Test above show that the mean N-Gain score for Nearpod media and participation is 0.6175 and 0.5265, while the results of the mean N-Gain score for Nearpod media and the percent N-Gain score for participation are 61.7529 and 52.6529. From these data it can be concluded that from the division of the N-Gain score the effectiveness is moderate because the N-Gain score for Nearpod media and the participation score is $0.3 \leq g \leq 0.7$ (medium). Meanwhile, for the interpretation category of effectiveness, Nearpod's N-Gain media score is quite effective because the percentage is 61.7529 and the participation N-Gain score is less effective because the percentage is 52.6529.

Discussion

Nearpod has been proven to be able to increase student participation in the learning process, as can be seen from the results of this research which show a significance value of $0.000 < 0.05$. This indicates a significant increase in student participation after the implementation of Nearpod media. The results of the N-Gain test also strengthen this finding, where Nearpod media produced a score of 62% (quite effective category), although the student participation score was still in the less effective category, namely 53%.

Nearpod increases student participation through interactive learning features that support active student engagement, both individually and collaboratively. Features like *live participation*, *collaborative board*, *polls & open-ended questions*, *interactive videos*, *draw-it*, And *quizzes* encourage students to think critically, provide real-time responses, and actively interact with the material and fellow classmates (Paramita, 2023). By creating dynamic and immersive learning experiences, students feel more emotionally and cognitively involved, which has a positive impact on their participation in learning activities (Purba, 2024) Furthermore, the Nearpod platform allows teachers to directly monitor student activities, provide fast feedback, and adapt materials flexibly according to class needs. This creates a sense of student ownership of the learning process, as well as increasing intrinsic motivation to participate actively.

However, implementing Nearpod is not without challenges. Some of the obstacles found include limited devices such as cell phones or laptops which are not evenly distributed among students, as well as unstable internet access, so that learning cannot run smoothly (Muliani et al., 2023). Apart from that, the successful implementation of Nearpod also depends on the teacher's competence in designing interactive content such as videos, quizzes, educational games, and collaborative activities that are in accordance with learning objectives (Liu, 2023). Teachers are required not only to master technology, but also to be able to integrate effective pedagogy into every digital activity.

The conditions of the learning environment also influence student participation. A less conducive environment, limited study time, or even a lack of support from parents can be factors inhibiting student involvement. Therefore, it is important for educators to consider students' social and psychological context when using technology-based media. Student participation is an important element in meaningful learning. According to (Cahyani et al., 2024), the Nearpod-based blended learning model is able to significantly improve student learning outcomes. Another study by (Sari et al., 2023) also shows that the use of Nearpod has a positive impact on student engagement in learning and understanding the material.

The limitation of this research is its narrow scope, namely it was only carried out in one class with a limited sample size. This limits the generalizability of the findings to broader contexts. In

addition, the relatively short duration of the study did not allow for observing long-term changes in student participation. Therefore, it is recommended that further research be carried out in a larger scope, across levels, and using mixed-method approaches in order to dig deeper into the dynamics of student participation, including non-technical factors such as motivation, the role of the teacher, and the social environment.

Overall, the results of this research strengthen previous findings that Nearpod is a digital learning media that has the potential to increase student participation and engagement. However, its use needs to be combined with adaptive pedagogical strategies, adequate infrastructure support, and ongoing training for teachers so that its benefits can be optimized as a whole.

Conclusion

Based on the research results, it can be concluded that Nearpod learning is effective in increasing student participation in learning material about the life cycle of living things in class 3B at SDN Kandangan 1 Ngawi. This is proven through statistical test results which show significant differences between student participation before and after using Nearpod. Even though increasing student participation is still in the less effective category based on the N-Gain value of 52.65%, Nearpod still makes a positive contribution to student engagement during the learning process. Nearpod's interactive features encourage active student involvement, both individually and in groups. Thus, Nearpod can be used as an alternative interactive learning media that supports increased student participation, as long as it is supported by adequate technological infrastructure.

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