

Flipped Learning with Nearpod Media: Enhancing Digital Learning Outcomes in Primary Mathematics

Riska Monicca Sari¹, Rusnilawati Rusnilawati^{1*}, Siti Rahaimah Binti Ali²

¹Universitas Muhammadiyah Surakarta, Indonesia

²Universiti Pendidikan Sultan Idris, Malaysia

*Corresponding Author's email: rus874@ums.ac.id

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<p><i>flipped Learning;</i></p> <p><i>nearpod;</i></p> <p><i>learning outcomes;</i></p> <p><i>primary mathematics</i></p>	<p><i>This investigation examines the efficacy of the Flipped Learning Model, supplemented with Nearpod media, on the academic outcomes of fifth-grade students in the subject of fractions. Utilising a quantitative methodology within a quasi-experimental research design, the Flipped Learning Model was deployed over three sessions. Nearpod media was employed to stimulate student engagement and enhance academic outcomes. A comparative study was conducted between students who were subjected to the Flipped Learning Model with Nearpod media (N=12) and a control group (N=12) that utilised the Direct Learning Model with image media. The analysis revealed a significant discrepancy in academic outcomes between the two groups. Throughout the investigation, students who were exposed to the Flipped Learning Model with Nearpod media showed an improvement in academic outcomes, indicating a significant influence on students' mathematical learning. The integration of the Flipped Learning Model with Nearpod media is categorized as moderately effective in improving student academic outcomes. This confirms that the implementation of the Flipped Learning Model with Nearpod media has a significant impact on enhancing classroom academic outcomes.</i></p>

INTRODUCTION

Background of the Study

The current educational metamorphosis grapples with a myriad of challenges, including environmental conditions and the incorporation of technology into the learning process, particularly

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in the realm of mathematics. The prerequisites for the advancement and evolution of educational institutions necessitate innovation and collaboration (Yamin & Syahrir, 2020). In this context, educators are tasked with devising effective models and strategies for mathematics instruction, fostering active student engagement in learning (Handayani & Yulia, 2020). Consequently, teachers should facilitate the development of mathematical comprehension by creating opportunities for students to challenge themselves and engage in high-level cognitive tasks through the judicious selection of strategies and tasks (Vale & Barbosa, 2023).

Less innovative teaching methods and strategies impede the development of critical thinking skills and student learning outcomes, as they predominantly rely on traditional methods (Tunggadewi, 2021). One learning concept that has gained widespread recognition and demonstrated effectiveness in enhancing student learning outcomes is the Flipped Learning Model (Kesharwani, 2022). This model fosters peer interaction and deepens material comprehension through activities conducted both outside and inside the classroom (Rusnilawati et al, 2023). Erkan & Duran, (2023) assert that the Flipped Learning Model enables students to access materials at home, thereby facilitating effective learning within the classroom. Thus, Flipped Learning can engender learning flexibility and a profound understanding of the materials under study.

The availability of technology in virtual platforms, applications, learning modules, digital devices, and internet access is a critical consideration for e-learning pedagogy (Prastyanti et al, 2022). The growing use of the internet has led to swift advancements in learning, such as the adoption of Mentimeter, Nearpod, and Liveworksheet (Musa & Al Momani, 2022). Specifically designed to facilitate active student participation in learning activities, Nearpod, as a learning medium (Oktafiani & Mujazi, 2022). Provides interactive features like videos, polls, and collaboration boards that can captivate students' interest in learning (Abdullah et al, 2022). Aligned with the ethos of integrating technology into the learning process, Nearpod serves as an intriguing and potentially supportive tool for implementing the Flipped Learning Model.

Problem of The Study

Presently, conventional classroom learning often lacks engaging and enjoyable packaging, leading to diminished interest among students. The consistently low qualifications of primary school students and the absence of 21st-century skills can be attributed to teachers not implementing appropriate learning models (Zainil et al, 2023). Many teachers persist in upholding conventional models that fail to meet the learning needs of students (Aristin et al, 2023).

Preliminary observations at Jaya Melati I Elementary School reveal a consistent reliance on the Direct Learning model in the teaching process. This model, characterised by lectures and group discussions, appears to lack coherence. The pedagogical approach is predominantly teacher-centred, which restricts active student participation in the learning process. Consequently, students often exhibit signs of boredom and fatigue during instruction. Further insights gathered from an interview with a teacher suggest that the utilization of instructional media, particularly digital technology-based media, is not being maximized. This is attributed to inadequate facilities and infrastructure, coupled with a deficiency in the teachers' proficiency in employing technology-based instructional media.

Currently, the academic performance of Jaya Melati I primary school students is low in math class. The Grade V Midterm Assessment results show this clearly: only 5 students met the Minimum Completion Standard (MCS) of 75 with an average score of 8, and 7 students were below the MCS with an average score of 6. The Midterm Assessment results show that almost half of all students did not reach the MCS.

Research's State of the Art

Numerous scholarly investigations, including one by Daulay et al, (2021), have delved into the application of the Flipped Learning model. Students' interaction with instructional materials at home,

made accessible by digital technologies like websites, blogs, e-books, and videos is what defines this pedagogical approach. The classroom environment is subsequently employed for the completion of homework tasks, thereby augmenting students' comprehension of the subject matter. As per Zainuddin & Halili, (2016), Flipped Learning is an instructional methodology wherein students view educational videos outside the classroom via distance learning and partake in face-to-face activities within the classroom. The primary aim is to optimise the face-to-face interaction between educators and students in the classroom setting (Rahman et al, 2020). The Flipped Learning model's fundamental content encompasses three components: 1) Pre-class learning, where the instruction endeavours to convey practical knowledge prior to the class, and the imparted knowledge is succinctly summarised; 2) In-depth explanation, where knowledge is practically and effectively applied in the classroom through active learning techniques. In this pedagogical approach, knowledge must be utilised as effectively as possible to foster an active learning environment and ensure comprehensive understanding among all students; 3) The significance of student attendance in class (He et al, 2016). The Flipped Learning model can bolster student engagement and interest as it enables them to access learning materials at home, thereby allowing them to prepare ahead of the lesson (Oktafia, 2022). Students can utilise class time for question-and-answer sessions, discussions, and project-based activities, thus enhancing efficiency in concept comprehension (Magdanela, 2023). Flipped Learning proves advantageous as it facilitates students' transition from passive to active learners (Suparman et al, 2023). In concurrence with this, Lazzari, (2023) asserts that Flipped Learning can foster an environment that positively impacts affective factors.

The integration of digital technology into the Flipped Learning model in education necessitates meticulous consideration. Nearpod, a learning platform, facilitates an interactive online learning experience for students, readily accessible via a range of electronic devices (Biassari & Kharisma, 2021). As per Minalti & Erita, (2021), the Nearpod application is apt for learning environments that permit both direct (offline) and indirect (online) interaction. The application boasts features such as (1) Slide Beta, (2) Classic Slide, (3) Web Content, (4) PDF Viewer, (6) VR Field Trip, (7) Simulation Models, and (8) videos and audio (Pramesti et al, 2023). (Wahyudi et al, 2022) highlight the advantages of Nearpod, which include: 1) easy accessibility even via mobile phones without consuming storage space, 2) high flexibility, allowing usage on mobile phones or laptops, 3) enabling students to use it independently or interact with other students one-on-one. Nearpod significantly aids teachers in designing learning activities that align with students' learning interests (Feri & Zulherman, 2021). The integration of Nearpod technology into the Flipped Learning model offers three unique capabilities, specifically a means to continuously monitor student performance in real-time, providing five "interactive features" that promote active learning in class and motivate students to complete their assignments before class (Mattei & Ennis, 2014). The utilization of Nearpod seems to present an alternative teaching method compared to traditional learning, engaging students in a superior learning experience (Burton, 2019).

The role of education in schools is paramount in moulding the future of students, with academic performance being a key determinant in this process. Academic performance is characterised by the competencies and skills that students garner upon the completion of educational activities (Djononiarjo, 2020). The outcomes of learning lay a robust groundwork for comprehending intricate concepts at advanced stages (Hevriansyah & Megawanti, 2017). The learning objectives that ought to be accomplished by students encompass affective, cognitive, and psychomotor capabilities (Gulo et al, 2022). The preliminary abilities of students in understanding the subject matter serve as a vital underpinning that steers students throughout their educational journey. Furthermore, Firmansyah, (2018) posits that the academic performance of students is also influenced by their interest. A profound interest in a specific topic or subject acts as a catalyst, motivating students to delve deeper

and critically analyse the material. Consequently, the pedagogical methods or models employed by educators undeniably impact the activities of students (Fauhah & Rosy, 2020).

Gap Study & Objective

Recent research conducted by Kesharwani, (2022) underscores the effectiveness of the Flipped Learning Model in enhancing students' learning outcomes compared to traditional teaching models. This finding is corroborated by studies conducted by Ihda & Harahap, (2022); Saputro & Rusnilawati, (2023); Cueva & Inga, (2022); and Putri et al, (2022), which demonstrate the efficacy of the Flipped Learning Model in improving students' learning outcomes. Meanwhile, research by (Putri et al, 2022) highlights that the implementation of Flipped Learning combined with Google Classroom effectively increases students' learning motivation compared to using traditional models. These results provide a basis for understanding the contribution of the Flipped Learning Model in improving the quality of education.

Despite previous studies providing evidence that the implementation of the Flipped Learning Model effectively improves students' learning outcomes, several aspects require further research to obtain comprehensive results. Research needs to be conducted to determine the extent to which the Flipped Learning Model can be effectively applied to different learning materials and educational levels. Further research examining various teaching methods and strategies for implementing the Flipped Learning Model on students' learning outcomes by applying different technologies from previous research using Google Classroom, this study uses the Nearpod media. This step is taken to see how influential the Flipped Learning model using Nearpod media is on students' learning outcomes at the primary school level. This research is expected to provide a solid foundation for further research on the application of the Flipped Learning Model with Nearpod media at various educational levels.

METHOD

Type and Design

This study employed a quantitative research approach with an experimental design. The research design utilized in this study is a quasi-experiment or non-equivalent control group design. Comparing the circumstances of the experimental and control groups is the justification for conducting a quasi-experiment. Additionally, utilizing the Nearpod media supported Flipped Learning approach, pre-and post-test instruments are employed to assess students' learning results.

Data and Data Sources

Students from the fifth grade at Jaya Melati I and Jaya Melati II Primary Schools in Wonogiri, Central Java, make up the study's sample. Twelve students from the experimental group and twelve from the control group make up the sample. While the control group uses picture media to execute the Direct Learning model, the experimental group uses Nearpod media to implement the Flipped Learning model.

Data collection technique

Data collection techniques in this study utilize pre-test and post-test methods, employing multiple-choice questions as a tool to measure learning outcomes, the validity and reliability of which are tested. The validity of the instrument was tested on sixth-grade students at Jaya Melati I Primary School. The validity results of the learning outcomes can be seen in Table 1 below.

Table 1. Validity Test of Learning Outcomes Instrument

No Item	Calculated $r_{\text{-value}}$	Table $r_{\text{-value}}$ $\alpha =$ 5%	Remarks
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1	0,849	0,576	Valid
2	0,797		Valid
3	0,536		Invalid
4	0,600		Valid
5	0,849		Valid
6	0,792		Valid
7	0,797		Valid
8	0,704		Valid
9	0,744		Valid
10	0,752		Valid
11	0,746		Valid

The toolkit testing results indicate that 10 multiple-choice questions are declared valid with a significance value >0.576 , and 1 question is declared invalid. Therefore, the valid instrumental test results will be used for the research. Instruments declared invalid will subsequently be removed from the research instruments. Following the validity test, the instrument is put through a reliability test, as shown in Table 2 below..

Table. 2 Reliability Test of Learning Outcomes Instrument

Learning Outcomes Instrument	
Crombach's Alpha	N Item
.915	10

With an r-table value of 0,576 for the learning outcomes instrument, the reliability measurement findings of the test instrument in Table 2 show a Cronbach's Alpha value of 0,915 which is considered reliable.

Data analysis

Many kinds of precondition tests, including homogeneity and normality tests, were used to analyze the data. The normality test is used to assess whether the data is normally distributed through a Shapiro-Wilk test, while the homogeneity test is used to establish whether the sample is homogeneous using an F-test. The usage of Nearpod media in conjunction with the Flipped Learning Model was then tested as a hypothesis to see if it affected the learning outcomes of fifth-grade pupils. To assess the efficacy of the learning model, the hypothesis test is run using an N Gain test and a t-test with a significance value of 0,05. This study's statistical analyses are all carried out with SPSS version 23.

1. Independent T-test

The independent t-test is used to compare the mean values of two unrelated data groups. This test can be conducted if the data is normally distributed and homogeneous, but this is not absolute. In this study, the obtained data meets the requirements for an independent t-test. Therefore, this test can be conducted to test the hypothesis of pre-test and post-test data for the experimental class with the pre-test and post-test data for the control class.

Independent T-test Pre-Test

$H_0 =$ There is no substantial disparity in the learning outcomes of students prior to the implementation of the Flipped Learning Model with Nearpod media, compared to before the application of the Direct Learning Model with image media on fraction material in the fifth grade of Primary School. ($\mu_1 = \mu_2 = \mu_i = \mu_j$)

$H_1 =$ There is a significant difference in the learning outcomes of students before implementing the Flipped Learning Model with Nearpod media compared to before using the Direct Learning Model with image media on fraction material in the fifth grade of Primary School.. ($\mu_i \neq \mu_j, i \neq j$)

Independent T-test Post-Test

$H_0 =$ There is no significant difference in the learning outcomes of students after implementing the Flipped Learning Model with Nearpod media compared to after using the Direct Learning Model with image media on fraction material in the fifth grade of Primary School. ($\mu_1 = \mu_2 = \mu_i = \mu_j$)

$H_1 =$ There is a significant difference in the learning outcomes of students after implementing the Flipped Learning Model with Nearpod media compared to after using the Direct Learning Model with image media on fraction material in the fifth grade of Primary School. ($\mu_i \neq \mu_j, i \neq j$)

2. Dependent T-test

The dependent t-test is used to determine the mean difference between two related data groups. This test is conducted using pre-test and post-test data from the experimental class to test the following hypothesis.

$H_0 =$ There is no significant difference in the learning outcomes of students before and after using the Flipped Learning Model with Nearpod media on fraction material in the fifth grade of Primary School. ($\mu_1 = \mu_2$)

$H_1 =$ There is a significant difference in the learning outcomes of students before and after using the Flipped Learning Model with Nearpod media on fraction material in the fifth grade of Primary School. ($\mu_1 \neq \mu_2$)

3. Evaluation of Normalised Gain

The computation of the normalised gain value adheres to the formula proposed by (Multasyam et al., 2016).

$$N \text{ gain} = \frac{\text{Skor Posttest} - \text{Skor Pretest}}{\text{Skor Maksimum} - \text{Skor Pretest}}$$

Criteria for Gain:

$g > 0,7$	= High
$0,3 < g < 0,7$	= Medium
$g < 0,3$	= Low

Table 3. Interpretation Category of N gain Effectiveness

Percentage	Interpretation
< 40	Ineffective
40 - 56	Marginally Effective
56 - 75	Moderately Effective
>76	Effective

RESULTS

The implementation of the Flipped Learning Model with Nearpod media follows a series of structured learning steps. The first step involves presenting a learning video through Nearpod before the class session begins by giving students the opportunity to gain an initial understanding of the material to be learned. Furthermore in class sessions, students are grouped to discuss solving problems related to the material that has been presented. This interactive activity allows students to engage directly and provide feedback to the teacher which will help in the preparation of further learning. After the class session is over, students are given assignments through the Nearpod platform to complete independently at home. This not only strengthens their understanding of the material, but also improves their digital literacy through the use of technology.

Following the process of validating and establishing the reliability of the research instrument, re-test and post-test data collection approaches are used in this study. After that, homogeneity and normality tests were run on the experimental and control groups. The results of the data processing using SPSS are as follows.

Table 4. Normality Test

Test Name	Group	Significance Value	α
<i>Pre Test</i>	Experimental	0,228	0,05
	Control	0,187	
<i>Post Test</i>	Experimental	0,118	0,05
	Control	0,187	

In Table 4, the significance values for the experimental and control groups for the pre-test are 0.228 and 0.187 respectively, and for the post-test are 0.118 and 0.187 respectively. These values, being greater than 0.05, indicate that the data is normally distributed.

Table 5. Homogeneity Test

Data 1	Data 2	Significance Value	α
Experimental Class Pre-Test	Control Class Pre-Test	0,736	0,05
Experimental Class Post-Test	Control Class Post-Test	1,000	0,05

Experimental Class Pre-Test	Experimental Class Post-Test	0,496	0,05
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The calculations in Table 5 indicate a significance value greater than 0.05. Therefore, an independent t-test is conducted on data that is normally distributed and homogeneous, as seen in Table 6.

Table 6. Independent T-test for Pre-Test Data

Sig. (2-tailed)	Significance Level (α)	t-value	Status
0,863	0,05	0,160	H ₀ accepted

As indicated in Table 6, the Sig. (2-tailed) value is 0.863, which is greater than 0.05. This leads to the acceptance of the null hypothesis (H₀) and the rejection of the alternative hypothesis (H₁). This leads to the conclusion that there is no significant variance in the learning outcomes of students prior to the application of the Flipped Learning Model with Nearpod media as opposed to the Direct Learning Model with image media on the subject of fraction numbers for fifth-grade primary school students. Following this, an independent t-test is performed on the post-test data.

Table 7. Independent T-test for Post-Test Data

Sig. (2-tailed)	Significance Level (α)	t-value	Status
0,023	0,05	1,023	H ₀ rejected

Drawing from the data presented in Table 7, we observe a two-tailed significance value of 0.023, which is less than the standard threshold of 0.05. This leads to the alternative hypothesis (H₁) being accepted and the null hypothesis (H₀) being rejected. This brings us to the conclusion that using the Flipped Learning Model with Nearpod media, as opposed to the Direct Learning Model with picture media, significantly affects the learning outcomes of the students. This observation is specifically pertinent to the subject of fraction numbers for fifth-grade primary school students.

Table 8. Dependent T-test for Pre-Test and Post-Test Data

Sig. (2-tailed)	Significance Level (α)	t-value	Status
0,000	0,05	11,222	H ₀ rejected

The results of the dependent t-test in table 8, show a significant value (2-tailed) of 0.00, which is less than the threshold for 0.05. As a result, the alternative hypothesis (H₁) is accepted and the null hypothesis (H₀) is rejected. It can be inferred from these results that the Flipped Learning Model, when implemented with Nearpod media in the teaching of fractions to Grade V elementary students, has a significant impact on learning outcomes. The N-Gain formula is employed to quantify the enhancement in students' learning outcomes pre and post the application of this learning model. The subsequent N-Gain calculations are presented below.

Table 9. N-Gain Test (Post-Test for Experimental and Control Groups)

Number of Students	Average Post-Test Score (Experimental)	Average Post-Test Score (Control)	Highest Score	N-Gain	Category
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24	85	75	100	0,4	Moderate
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Table 10. N-Gain Table (Pre-Test and Post-Test for Experimental Group)

Number of Students	Average Post-Test Score (Experimental)	Average Post-Test Score (Control)	Highest Score	N-Gain	Category
24	55	85	100	0,67	Moderate

In Table 9, The computed N Gain scores indicate that the post-test data values for both the experimental and control groups are 0.4, placing them in the moderate category (show as table 3). In contrast to the Direct Learning Model employing visual aids, the Flipped Learning Model demonstrates superior results. Additionally, the N Gain value for pre-test and post-test experimental data is 0.67 (show as table 10), falling within the moderate range. This suggests that the instructional model employed effectively enhances students' learning outcomes, showcasing a 67% improvement (56%-75%).

DISCUSSIONS

The pedagogical process of mathematics is an elevated cognitive endeavour that necessitates a progressive, sequential approach, building upon the experiential knowledge of students (Muhtadi et al, 2022). The primary objectives of mathematics education encompass problem-solving, idea communication, and solution discovery (Ardiyani et al, 2019). The pivotal role of mathematics education across all educational levels is instrumental in fostering resilience in students through mathematical proficiency (Lestary et al., 2023). This necessitates the development of innovative pedagogical strategies and methodologies by educators, such as the Flipped Learning Model. Flipped Learning is an instructional approach where students initiate the learning of new concepts outside the classroom, subsequently applying this pre-acquired knowledge in collaborative problem-solving activities or peer discussions during class (Acarol, 2019). Prior to classroom instruction, educators provide students with instructional videos, facilitating the acquisition of necessary information (Eppard & Rochdi, 2017). This pre-class learning optimises the efficacy of teacher-student collaboration during in-class instruction (Sukerti et al, 2020).

Statistical analysis conducted using SPSS version 23 revealed no significant difference in student learning outcomes prior to the implementation of the Flipped Learning Model assisted by Nearpod, compared to the Direct Learning Model assisted by visual aids. However, post-implementation of the Flipped Learning Model, a significant difference in learning outcomes was observed, with a significance value (2-tailed) of $0.000 < 0.05$, indicating a substantial improvement following the application of the Flipped Learning Model with Nearpod. An N Gain test was subsequently conducted to evaluate the effectiveness of the model application. The results demonstrated a 67% enhancement (57%-75%) in student learning outcomes through the implementation of the Flipped Learning Model with Nearpod, with an average post-test score of 85, compared to the Direct Learning Model, which had an average post-test score of 75. In conclusion, the implementation of the Flipped Learning Model with Nearpod significantly augments student learning outcomes compared to the Direct Learning Model with visual aids.

During each session of the experimental class, students underwent designated procedures detailed as follows. The initial step encompassed pre-class activities wherein students were furnished with access codes to participate in an online class through the Nearpod platform (show as figure 1). In this phase, students logged in using their individual names to access and resume the online instructional videos. The initial session centred on the comprehension of fractional numbers, the subsequent session explored the addition and subtraction of fractional numbers, and the final session addressed the multiplication and division of fractional numbers.

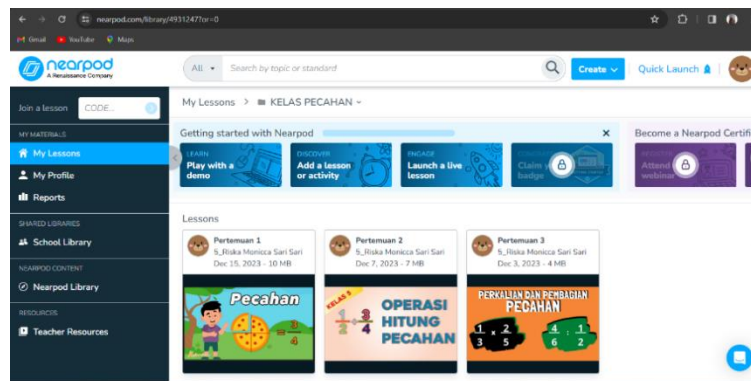


Figure 1. Pre-Class Activities

The second phase of classroom instruction entailed the articulation of learning objectives, participation in group discussions to address problems, assignment presentation, drawing inferences from the learning experience, providing feedback, and monitoring learning progress (show as figure 2). Additionally, during in-class instruction, instructional media, exemplified by watermelon fractions, were utilised to augment understanding of fractional concepts. In the control class, the instructional process mirrored the second phase, with the exception that material explanations were delivered during class time, resulting in diminished student engagement in the learning process.



Figure 2. In-Class Activities

The third phase, subsequent to in-class instruction, involved the completion of tasks on the Nearpod platform (show as figure 3) and the pursuit of additional reference sources. Following this, the focus transitioned towards the material for the ensuing session.

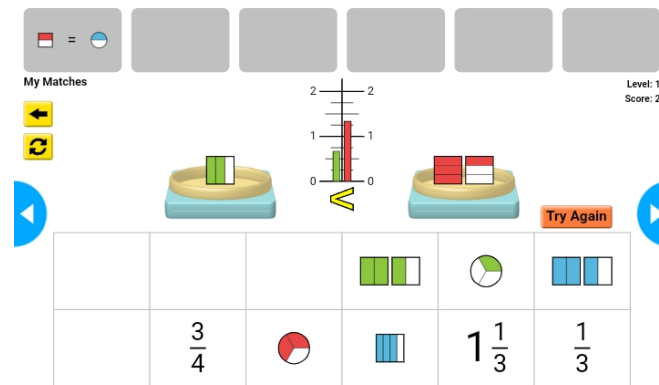


Figure 3. Outside Class Activities

Over a span of three sequential sessions, students underwent a specific treatment to evaluate improvements in their learning. The pre-test analysis conducted before the treatment and the post-test analysis following the implementation of the Flipped Learning Model, assisted by Nearpod Media, indicated an uplift in student learning outcomes. This is substantiated by research conducted by Rusnawati, (2020) which demonstrates that Flipped Learning can significantly enhance student learning outcomes. This finding is further supported by Sugiharti et al, (2022), observation that the Flipped Learning Model has a beneficial effect on the learning outcomes of fifth-grade students at SD Gugus Wijayakusuma, Karangtengah District, Demak Regency, lends more credence to this conclusion.

By customizing learning materials to match the requirements of each student, the instructor plays a critical role in the learning process and helps to successfully apply the Flipped Learning Model. The most commonly cited challenges of the Flipped Learning Model include the time and expertise required to establish an online environment (Gündüz & Akkoyunlu, 2020). Teachers are required to have the skills to design interactive learning on the Nearpod platform, such as interactive videos, relevant quizzes, competitive games, and collaborative activities that bolster student understanding (Liu, 2023). Moreover, the young age of the students and technological constraints present challenges and limitations in the implementation process, especially during the initial stages (Loizou & Lee, 2020). Consequently, within the classroom, teachers offer guidance, respond to questions, and elucidate concepts that students find challenging to comprehend. Outside the classroom, teachers provide supplementary learning resources, respond to student queries, and ensure students have access to learning materials via Nearpod.

Parental support and environmental conditions are pivotal elements in the successful implementation of the Flipped Learning Model. However, a significant number of parents remain unacquainted with the use of technology, such as smartphones and laptops (Miller & Venketsamy, 2022). The family environment also exerts a positive influence on students' academic achievement, with a harmonious family atmosphere, adequate economic resources, and parental attention playing a significant role in a child's success in terms of discipline and problem-solving (Sinaga, 2018). Environmental conditions, such as conducive learning environments and the availability of time, can impact students' ability to actively participate and minimise obstacles during the learning process.

CONCLUSION

The Flipped Learning Model combined with Nearpod media works well to improve student learning results in elementary schools. While Nearpod encourages students to be more involved and active in the learning process, the Flipped Learning Model helps students absorb learning materials on their own. This can bolster students' motivation to learn, leading to improved learning achievements. One limitation of this study is the age and maturity of primary school students. Students' ability to learn independently and utilise the Flipped Learning Model with Nearpod media can be influenced by their level of cognitive maturity and technological proficiency. The unpredictable availability of the internet and student learning devices are two infrastructure variables that have an impact on how well the flipped learning strategy using Nearpod media is implemented. To determine which variations in instructional design and tactics are most successful in improving learning outcomes in elementary schools, future research might investigate different approaches to implementing learning. The Flipped Learning Model with Nearpod media has the potential to improve the quality of education at the primary school level. The use of technology and the Flipped Learning approach enables teachers to create more interactive learning experiences, enhancing students understanding and retention of the material. The implementation of this model encourages students to actively engage in the learning process. Through Nearpod's interactive features, such as quizzes and discussions, students gain a deeper understanding of the material, fostering a collaborative learning environment.

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