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Implementation of the Blended Cycle Learning Model to Increase Elementary School Students' Interest in Learning

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Abstract

This study aims to analyze the effectiveness of the Blended Cycle Learning model in increasing learning interest among elementary school students in Lebak Regency. This model integrates online learning, offline learning, and continuous reflection and feedback activities within a single learning cycle. This approach is expected to create an adaptive and participatory learning process, in line with the demands of 21st-century learning.

This study used a quasi-experimental method with a pretest-posttest control group design. The sample consisted of 60 fifth-grade students from two elementary schools, randomly divided into an experimental group and a control group. The research instruments included a learning interest questionnaire, a learning activity observation sheet, and a teacher interview guide. Quantitative data were analyzed using a t-test to determine differences in learning interest scores before and after the treatment, while qualitative data were analyzed descriptively.

The results showed a significant increase in students' learning interest scores in the experimental group compared to the control group. Furthermore, observations and interviews indicated increased student engagement, independence, and enthusiasm during learning.

Thus, the Blended Cycle Learning model has proven effective in increasing elementary school students' interest in learning and can be an alternative innovative learning strategy that is relevant in the current educational context.

Keywords: Blended Cycle Learning, Learning Interest, Elementary School, Innovative Learning

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INTRODUCTION

In the post-COVID-19 pandemic era of digital education transformation, the learning system has undergone a paradigm shift from conventional learning to more flexible and adaptive learning. One emerging approach is Blended Learning, which systematically combines face-to-face and online learning. However, its implementation at the elementary school level still faces various challenges, such as a lack of teacher preparedness, limited technological infrastructure, and a lack of structured and cyclical learning models tailored to the characteristics of elementary school students. Meanwhile, elementary school students' learning interest in various regions, including Lebak Regency, has shown a declining trend, as reflected in learning evaluation results and student engagement in the learning process.

Several previous studies have discussed the effectiveness of blended learning at secondary and higher education levels (Linda Maryati et al., 2022; Purwatiningsih,

2014). However, there is still little research specifically examining the application of the Blended Cycle Learning model in elementary schools. This model has the potential to integrate cyclical stages such as exploration, conceptual understanding, reinforcement, and reflection in a sustainable manner, which aligns with children's learning styles. This research gap presents an important opportunity to explore, particularly in the local context of Lebak Regency, which presents unique geographical and social challenges in implementing educational technology

Therefore, this research is crucial and urgent to determine the extent to which the Blended Cycle Learning model can increase elementary school students' learning interest and make a tangible contribution to the development of innovative, applicable learning models in areas with specific limitations. This research also contributes to the elementary education literature, which has so far provided little discussion of blended learning models in an integrated, cyclical format.

Interest in learning is an important factor that determines the success of a student's learning process, because interest plays a role in driving motivation and active involvement in learning a subject (Dale H. Schunk et al., 2014; Wulandari et al., 2023). At the elementary school level, students are at a developmental stage that requires concrete, enjoyable, and life-relevant learning experiences to optimally foster learning interest. Therefore, creating an interactive and adaptive learning environment tailored to student characteristics is crucial.

Lebak Regency, as a region currently developing the quality of basic education, faces various challenges, particularly in aligning learning methods with developments in information technology and the needs of learning in the digital era. Limited infrastructure, teacher readiness to utilize technology, and differences in access between schools are common obstacles in this region (Maeswaty, 2023). Furthermore, the demands of the Independent Curriculum, which emphasizes differentiated and technology-based learning, further emphasize the urgency of implementing innovative learning models that can improve student learning.

The Blended Cycle Learning model is an innovative approach that combines the advantages of online and offline learning in a systematic cycle consisting of online and offline stages, as well as reflection and feedback. This approach not only offers flexibility for teachers and students but also increases student engagement through media diversification and contextual and interactive learning activities. Recent systematic studies have shown that the blended learning model is effective in increasing student engagement, learning independence, 21st-century skills, and academic learning (Suartama, 2025). In addition, a meta-analysis of flipped classroom-based blended learning found a large positive effect on students' critical thinking skills with an effect size of ES = 0.838 (a large estimate of) (Luciana et al., 2024). Specifically in Indonesia, quasi-experimental studies on learning in elementary schools show that the implementation of blended learning significantly improves student learning outcomes (Hidayati et al., 2024; Purnama et al., 2023; Sidik et al., 2022).

Blended learningcan improve students' independent learning skills. It is believed that the significant difference that blended learning makes in terms of independent learning grows from better planning and comprehensive and effective use (Akgunduz and Akinoglu, 2016). Cycle learning involves active student participation throughout the learning process and can improve learning outcomes.

Cycle learning encourages teachers to create a series of meaningful activities, thereby training students' critical thinking (Balta and Sarac, 2016). Critical thinking skills are needed by students to prepare themselves for future life (Meirisa et al., 2018). Through Cycle learning, students have the opportunity to explain and express their arguments, interpret and refine them. (Honey, 2012)Therefore, the use of the learning cycle model can improve student learning outcomes (Marfilinda et al., 2019). Blended Learning Cycle combines the power of online and offline learning cycles to create active, adaptive, and effective learning. Models like TSOI and 8E-Blended Learning have been proven to strengthen learning outcomes through cycles of exploration, application, and reflection.

Implementing a blended learning cycle can save time because, during the learning process, material is delivered independently to students according to their learning preferences. Material is specifically explained face-to-face, while online learning is also considered. Students enjoy learning opportunities outside of the classroom, and the information is easily understood (Bibi and Jati, 2015). Students are more engaged in learning when using blended learning. This is due to the fact that learning takes place both inside and outside the classroom, requiring students to fully focus on their learning. With this focus, both in-person and online students feel encouraged and challenged to participate in learning activities (Muhria, 2022).

Various studies have shown that the implementation of blended learning in elementary schools consistently improves student motivation and learning outcomes. For example, Safitri's report using SLR demonstrates that this model can be a meaningful innovation in elementary schools in the Society 5.0 era (Safitri and Saskia, 2024). Research by Zamhari et al. (2025) also shows that blended learning can increase students' learning interest from an average score of 75 to 88, especially in elementary school multigrade classes (Zamhari et al., 2025). Meanwhile, Puspita and Tirtoni (2023) found that blended learning significantly improved the learning outcomes of fourth-grade elementary school students with Sig = 0.003 (online) compared to Sig = 0.001 (conventional) (Puspita and Tirtoni, 2023).

This is where the Blended Cycle Learning model can provide a solution. Combining online and offline components within a single learning cycle allows students to experience both independent exploration (online) and collaborative and reflective learning (offline). This model aligns with findings that differentiated learning that combines interactive activities and contextual media significantly increases elementary school students' learning interest (Marlina, 2025).

Thus, this study aims to evaluate the potential of the Blended Cycle Learning model in increasing the learning interest of elementary school students in Lebak Regency, as a form of educational adaptation that prioritizes active involvement and relevance in the digital era.

METHODS

Types of research

This study used a quantitative approach with a quasi-experimental non-equivalent control group design, consisting of two groups: an experimental group receiving treatment with the Blended Cycle Learning model, and a control group

receiving conventional learning. This design is suitable for use in situations where full randomization is difficult to implement in elementary schools (Sugiyono, 2022). Quasi-experimental designs are sometimes called ex-post facto designs or after-the-fact experiments, because the experiment is conducted after the groups have been formed (Singh, 2021). This study was conducted because it was not possible to completely randomize subjects, but we still wanted to determine the effect of the treatment on the observed variables. The purpose of this study was to determine the effect of learning models on students' learning interests (Helwig et al., 2021).

Research Design

The design used in this study was a Pretest-Posttest Control Group Design. In this design, there are two groups: an experimental group that receives the treatment and a control group that does not receive the treatment. This design is suitable for use in educational settings because it allows researchers to evaluate the impact of an intervention even without full randomization of students, as is often the case in elementary schools. By comparing the pretest and posttest results in both groups, researchers can determine the effectiveness of the treatment in a more controlled manner (Ary, D., Jacobs et al., 2019; Creswell, 2014; Fraenkel et al., 2019). The group was given a pretest and posttest to determine the improvements or changes that occurred after the treatment (Safitri et al., 2023).

Table 1. Pretest and Posttest Groups

Group	Pre-exam	Treatment	Post-test
Test	O_1	X	O_2
Control	O_3	–	O_4

1. Population and Sample

All fifth-grade students of Cijoro Pasir State Elementary School and Jatimulya 3 State Elementary School, Lebak Regency.

2. Research Variables

Independent variables : Blended Cycle Learning learning model
Dependent variable : Student learning interest

3. Data collection technique

A. Learning Interest Questionnaire

Directly measures students' learning interest based on their perceptions of learning activities. It is structured on a Likert scale based on indicators of learning interest such as curiosity, attention to the lesson, persistence, and enthusiasm. It provides quantitative data that can be statistically analyzed to determine differences in scores between the pretest and posttest and to compare results between the experimental and control groups.

B. Observation

Directly observe student engagement during the learning process, both online and offline. Active participation, enthusiasm for asking questions, initiative in completing assignments, and interaction with teachers and peers are key factors. Provide supporting data for questionnaire results and help externally validate whether increased interest is also evident in students' actual behavior during

learning.

C. Documentation
Digging for in-depth information regarding changes in student behavior from the teacher's perspective and collecting supporting documents such as lesson plans (RPP), attendance lists, and student assignment results.

4. Research Instruments

The instrument used was a questionnaire using a 4-point Likert scale with indicators: attention, interest, involvement, and motivation. Example Statements: 1. I am interested in following the lesson. 2. I feel enthusiastic when learning. 3. I focus on listening to the teacher during the lesson. Score: 1 (Never) to 4 (Always). Aims to measure the level of student learning interest based on psychological indicators related to motivation and learning involvement (Sardiman, 2018). Validity is tested by experts (expert judgment), reliability is tested with Cronbach's Alpha (≥ 0.6 = reliable).

5. Data Analysis Techniques

A. Normality Test: Kolmogorov-Smirnov
A normality test is conducted to determine whether the data obtained in the study is normally distributed. This is important because parametric tests, such as the t-test, require the data to be normally distributed (Sugiyono, 2022).

B. Homogeneity Test: Levene's Test
The homogeneity test aims to determine whether two groups of data have the same variance (homogeneous). Homogeneity of variance is an important prerequisite for conducting parametric statistical tests, such as the two-sample independent t-test.(Sugiyono, 2019)In this study, homogeneity tests were conducted on pretest and posttest data in the experimental and control groups using the Levene Test through the SPSS program.

C. t-test (independent samples t-test)
An independent sample t-test was used to determine whether there was a statistically significant difference between the mean posttest scores of the experimental and control groups after the treatment was administered. In the context of this study, the aim was to test the effectiveness of the Blended Cycle Learning model in increasing elementary school students' learning interest compared to conventional learning.
Formula: $t = \frac{M_1 - M_2}{\sqrt{\left(\frac{S_1^2}{n_1}\right) + \left(\frac{S_2^2}{n_2}\right)}}$

D. Interpretation: If sig. (p) < 0.05 then there is a significant influence

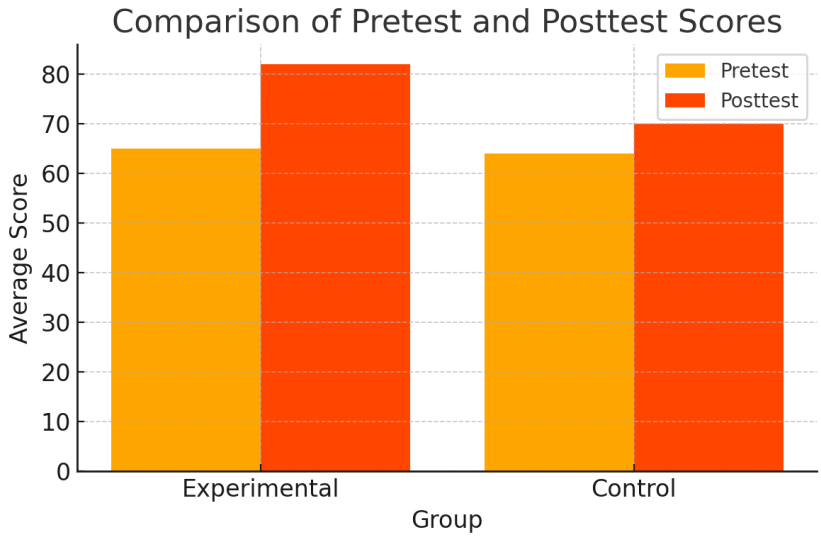

Figure 1. Comparison chart of pretest and posttest scores

RESULTS & DISCUSSION

Research Overview

This research was conducted on fifth grade students Cijoro Pasir State Elementary School and Jatimulya 3 State Elementary Schoolin Lebak Regency for 1 month in the even semester of the 2024/2025 academic year. This study involved two classes: class VA as the experimental group with the Integrated Cycle Learning model and class VB as the control group with the conventional learning model.

Pretest and Posttest Result Data

The following are the average pretest and posttest scores for each group:

Table 2. Pretest and Posttest Result Data

Group	Pretest (Average)	Posttest (Average)
Test	65	82
Control	64	70

The greater improvement in the experimental group reflects that the Blended Cycle Learning model had a more significant influence in increasing students' learning interest compared to the conventional learning method used in the control group.

This shows that the integration of online, offline, and reflective learning in the Blended Cycle Learning model is able to create a more interesting learning atmosphere, motivate students to be more actively involved in the learning process, and foster a higher sense of curiosity and enthusiasm.

Statistical Test

A. Normality Test

Table 3. Normality Test Results

Group	Stages	Significant Value	Distribution
Test	Pre-exam	0.127	Normal
Test	Post-test	0.091	Normal

Control	Pre-exam	0.134	Normal
Control	Post-test	0.079	Normal

All pre-test and post-test data for the experimental and control groups had significance values greater than 0.05, thus concluding that all data were normally distributed. Therefore, further testing can be done using parametric tests, such as the independent t-test or the paired t-test, depending on the purpose of the analysis.

B. Homogeneity Test

The homogeneity test using Levene's Test shows a significance value = 0.284 (> 0.05) so that the data has homogeneous variance.

C. t-test (Independent Samples t-test)

The t-test results for posttest scores between the experimental and control groups showed a significance value of 0.002 (<0.05). This indicates a significant difference between the learning outcomes of students who used the Blended Cycle Learning model and those who did not.

These findings indicate that the use of the Blended Cycle Learning model has a positive impact on improving student learning outcomes. This model, which combines learning cycles with a blended learning approach (a combination of online and offline), has proven to be more effective than conventional learning.

Discussion

The results of the study showed that the Blended Cycle Learning model significantly increased students' learning interest. This was evidenced by the increase in the average post-test score of the experimental group compared to the control group and the significant t-test results. This model combines online and offline learning with a learning cycle approach, thus encouraging active student engagement, facilitating independent exploration, and strengthening conceptual understanding. Students felt more engaged and motivated because learning was carried out using a variety of media and activities.(Sutisna, 2016).

These findings align with previous research showing that systematically designed blended learning can improve student interest, motivation, and learning outcomes. The combination of online self-directed learning and face-to-face reflection fosters in-depth conceptual understanding (Fitriyanti et al., 2024; Rahman et al., 2020).

In the implementation of blended cycle learning, there are main factors, namely: (1) facilities and infrastructure, (2) teachers need to improve their abilities in the field of ICT by reading and practicing independently or through formal training, and (3) students need to have access to computers and the internet and have the ability to utilize E-Learning. In order for learning to be optimal, these three factors must be met and implemented well, schools and educational institutions must strive to support and provide facilities and infrastructure to support teachers in developing their abilities in the field of ICT and strive for students to get access to computers and the internet. If these efforts are implemented, the implementation of blended learning will be able to run optimally (Bangur et al., 2018).

The Mixed Cycle Learning Model and Its Impact on Learning Interest

The combination of Kolb's learning cycle model and blended learning offers a setting in which students receive theoretical stimulation and real-world experiences alternately and repeatedly (Osman and Hamzah, 2020). Makes concepts more relevant and engaging by frequently linking them to real-life activities. Provides space for reflection and experimentation, both independently (online) and collaboratively (face-to-face). Fosters

interest through various media (videos, online quizzes, discussions, and practice), which research shows increases student motivation to learn the subject matter (Sulisworo, 2018).

CONCLUSION

This study shows that the Blended Cycle Learning model is effective in increasing the learning interest of elementary school students in Lebak Regency. Significant improvements were observed in the experimental group, both based on the results of the learning interest questionnaire and observations of student engagement during the learning process. Teacher interview data also confirmed positive changes in students' learning attitudes, such as increased curiosity, independence, and enthusiasm for participating in learning.

These findings confirm that implementing cycle-based learning, which combines online, offline, and reflective activities on an ongoing basis, can create a more engaging and adaptive learning environment for students. Thus, this model makes a significant contribution as an alternative approach to increasing learning interest in elementary schools.

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