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The Effect of Mystery Box Learning Media on Science Learning Outcomes of Grade III Elementary School Students

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ABSTRACT

The background of this study is the lack of use of interesting learning media, which causes low student learning outcomes. The purpose of this study is to determine the effect of the use of Mystery Box learning media on elementary school students' learning outcomes. This type of research uses a quantitative approach with a quasi-experimental design with a Nonequivalent Control Group design. The subjects of this study were 48 students divided into a control class and an experimental class. The tested data analysis technique produced a Cronbach's Alpha of 0.928, which means that the research instrument shows a very good level of reliability. The data were analyzed using a t-test with the results of the study, the t-value was 0.078 with degrees of freedom (df) 46.0 and p-value = 0.078. This p-value greater than 0.05 indicates that there is no significant difference between the average scores of the control group and the experimental group before the intervention, so that both groups are in a balanced initial condition. Meanwhile, in the posttest, the t-value was -13.31 with df 46.0 and p-value <0.001 indicating a significant difference between the control and experimental groups after the intervention. A negative t-value indicates that the average score of the experimental group is higher than the control group. This confirms that the use of Mystery Box learning media has a significant influence on the learning outcomes of elementary school students.

Keywords:
Conceptual misunderstandings, elementary school, learning media, learning outcomes, mystery box

INTRODUCTION

Modern education demands a student-centered approach. This approach focuses on students, requiring them to be active learners. However, in classroom learning, teachers still frequently use lectures (Sumarsih & Wirdati, 2022). However, the continued use of this method can lead to student inactivity. Furthermore, students can become bored during the learning process. This boredom and passivity in the classroom can also lead to decreased learning outcomes (Sukma & Handayani, 2022). In other words, a pleasant learning environment is necessary to prevent student boredom.

A pleasant learning environment is indeed necessary for students, especially in learning science, because in science subjects there is a lot of material that must be learned. One of them is the material on grouping animals based on their diet. Students often misunderstand the concept of grouping animals based on their diet (Syarif et al., 2025). For example, in the case of monkeys, students often assume that monkeys are herbivores because monkeys like to eat bananas. In fact, monkeys are omnivores, because monkeys not only eat bananas but also eat insects. This conceptual misunderstanding usually occurs because traditional media such as books, pictures, and blackboards are still often used, so the material presented becomes less interesting and students become less enthusiastic during the learning process (Ummah & Mustika, 2024). In fact, the use of concrete media is very necessary because in addition to attracting students' attention in learning, these media can also be used by students to understand the concepts of a material.

The use of concrete media allows students to see and touch them directly. This can help students overcome common conceptual misunderstandings. However, teachers face many challenges, one of which is student character. Third-grade students, especially those with high curiosity, often feel bored and lose focus. This boredom occurs when classroom learning lacks variety (Rahma et al., 2022). Furthermore, limited media or teaching aids can also contribute to poor conceptual understanding (Rahmawati et al., 2023). In other words, the use of appropriate learning media is crucial to prevent student boredom during the learning process.

The use of learning media is indeed very important in schools, but its use is still underutilized. Learning media can be defined as a tool used during the learning process (Farhanto et al., 2025). Learning media significantly helps students increase interest and enthusiasm in the learning process, so they can easily understand the material concepts (Awallya et al., 2025). However, learning media has not been optimally utilized by teachers. Available learning media are sometimes less interactive and less engaging for students. This results in a monotonous learning process.

A monotonous learning process can make students bored and less likely to engage actively in learning. This will lead to low student understanding. As a result, some students still have difficulty connecting conceptual understanding with real-world experiences. Students need real objects to observe, experiment, and even draw conclusions. Many students only have a basic understanding of the material without understanding its meaning or essence (Mahbubi & Sa'diyah, 2025). As a result, students still have difficulty when asked to re-explain concepts that have been presented. Meanwhile, the use of appropriate learning media is very important and necessary to improve student learning outcomes (Latifaturrohmah et al., 2025). The use of appropriate media will also help students better understand concepts, preventing them from simply memorizing the material.

In third-grade science, it was found that students memorized more than they understood the material. They knew the types of animal food, but they didn't understand the reasons. The learning approach lacked variety and didn't actively engage students, so students quickly became bored and lost motivation to learn (Susanti et al., 2024). To engage students throughout the learning process, teacher innovation is needed (Ulfiah & Wahyuningsih, 2023). The teacher's role in the learning process is crucial to ensure that innovation can improve student learning outcomes.

Implementing innovations, such as the use of concrete learning media, can help students understand material concepts easily and enjoyably. Therefore, the innovations implemented by teachers are expected to help maximize student learning outcomes. However, given these issues, student learning outcomes often fall short of expectations, and student engagement in the learning process is also minimal. Yet, student engagement is crucial in the learning process, impacting learning outcomes and student development (Zamira et al., 2025). Especially in science lessons, student understanding of the material remains very low. As a result, student confidence decreases because they struggle to follow the material. Ultimately, the expected competency goals are not achieved. However, changes in student behavior, particularly in terms of self-confidence, are likely to emerge through active learning (Masyitoh & Safmi, 2024). Furthermore, active learning can foster strong character in elementary school students.

While a strong character is crucial, students' attitudes toward science are also affected by a lack of effective learning. Students lack enthusiasm during learning. This influences their perception of science as difficult due to the extensive memorization of material (Citradevi, 2023). Furthermore, students perceive science as boring (Febriani et al., 2024). Ultimately, this can impact the development of students' scientific abilities. These impacts must be addressed immediately to prevent them from progressing to the next level.

To prevent this problem, a viable solution is to utilize innovative learning media, namely the Mystery Box. A Mystery Box can be defined as an educational game tool consisting of a cardboard box with additional accessories to support the media (Nelti et al., 2025). Mystery Boxes offer advantages such as arousing students' curiosity about the questions presented (Azizah et al., 2024). With this learning medium, students can engage in exploratory activities. Furthermore, the learning process becomes enjoyable, as students feel involved and enthusiastic about learning.

In addition to increasing student enthusiasm for learning, the Mystery Box learning media can help students understand a concept. This learning media is designed to address student problems related to lack of understanding, knowledge, and motivation in learning (Qomariah & Sholihah, 2025). This learning media can be modified according to the needs of the learning material to be discussed. For example, in the 3rd grade lesson material, namely grouping animals based on their type of food. With this Mystery Box media, students' skills can be honed well (Kharisma & Baharudin, 2025). Students are also involved in the use of this media, so that students can play an active role in the ongoing learning process.

Based on observations at SDN 1 Kalidawir, learning media has been used, but it is still not engaging enough. Therefore, learning media that can attract students' attention is needed. This Mystery Box learning media has the potential to increase student attention (Oktafiani et al., 2024). This Mystery Box learning media is expected to be a solution to the problem of low social science learning outcomes. Because in social science, the learning process requires concrete media as a link between students and the source of the material they will learn (Prastyaningsih & Pranata, 2024). Therefore, the application of appropriate learning media can help improve student learning outcomes and enable them to understand learning concepts well.

LITERATURE REVIEW

Mystery Box learning media is a medium containing various objects that involve an element of surprise (Harahap et al., 2023). This media is designed to make students interested and enthusiastic in learning (Kurnia & Muttaqien, 2024). Mystery Box learning media can create a more active and enjoyable classroom atmosphere. Students not only listen to the teacher's explanation but also directly participate in learning activities. This direct involvement helps students understand the material in a more concrete way. Mystery Box learning media is often used as an innovative learning medium in elementary schools.

Mystery Boxes are commonly used in subjects, including science. The contents of the Mystery Box can be tailored to the material being studied by students. Teachers can insert images, real objects, or simple problems into the box. Learning activities using Mystery Boxes can improve student focus (Sriyani & Akbar, 2025). Good learning focus is crucial for understanding the material presented (Mustofa et al., 2023). In other words, the Mystery Box learning medium is considered effective as an engaging learning tool.

Mystery Box learning media also encourages students to think critically, especially when facing problems (Yulianti & Dewi, 2024). When students are asked to guess or explain the contents of the Mystery Box, they are trained to speak in front of the class. This proves that Mystery Box learning media can increase the self-confidence of elementary school students (Wibowo & Pradana, 2022). Previous research has shown that interactive media is preferred by students over conventional media. Mystery Boxes are considered interactive media because they involve students' physical and mental activities. Therefore, the use of Mystery Box learning media can support a meaningful learning process.

Meaningful learning is crucial because it allows students to easily understand the material presented by the teacher, making learning more effective. This effective learning process also impacts student learning outcomes. Student learning outcomes can be defined as the results students obtain after participating in the learning process (Nurrita, 2018). Learning outcomes encompass aspects of student knowledge, attitudes, and skills. In elementary schools, learning outcomes are typically measured through tests, assignments, and observations. Good learning outcomes indicate that students understand the material taught by the teacher. Many factors influence student learning outcomes, one of which is learning media (Pratiwi & Meilani, 2018). Engaging media can help students achieve more optimal learning outcomes.

The use of innovative learning media can improve elementary school students' learning outcomes. Students who learn using engaging learning media tend to remember the material more easily (Hildayah, 2019). Furthermore, student motivation also increases when the learning process is enjoyable. High motivation can positively impact learning outcomes (Azmi et al., 2024). With good learning outcomes, learning objectives can be optimally achieved. In other words, selecting the right learning media is crucial, especially in improving student learning outcomes.

METHODOLOGY

Research Design

The research method used in this study is quantitative research. The type of research used is a Quasi-Experimental Design, where this design is designed to approximate the conditions of true experimental research while adjusting for various practical limitations that often occur in real classroom environments. This Quasi-Experimental Design method is considered appropriate for classroom-based research because it allows testing of interventions without disturbing the natural conditions of the learning environment (Hermawan, 2020). Although the absence of randomization can introduce certain biases, rigorous statistical analysis and the implementation of pretests help minimize potential threats to validity. This study uses an Unequal Control Group Design, a design that involves the use of experimental and control groups without randomization. The experimental group received treatment through the application of the Mystery Box learning media, while the control group continued to follow conventional learning methods. The purpose of using this design is to evaluate the effect of the independent variable, namely the learning media, on the dependent variable such as student learning outcomes.

In order to achieve the research objectives, a non-equivalent control group design was chosen to facilitate a balanced comparison between two intact classes that could not be randomized. Pre-tests were administered to both the experimental and control groups to assess initial equivalence before the treatment was administered. This step is crucial to ensure that differences emerging after the intervention can be more confidently attributed to the independent variable, rather than pre-existing differences. The use of pre-test and post-test measures strengthens the internal validity of the research design. Furthermore, the non-equivalent control group design has the advantage of reflecting real-world learning conditions, thereby enhancing the external validity of the findings (Leedy & Ormrod, 2020). By integrating these methodological considerations, this study provides meaningful insights into how the Mystery Box learning media can impact learning outcomes.

Research Sample

The research sample in this study consisted of elementary school students purposively selected to represent the third-grade student population. A total of 48 fourth-grade students were initially involved in the pilot phase to test the validity and reliability of the student learning outcome instrument in science learning. In the main experimental phase, two intact classes from the third-grade level were involved and divided into an experimental group (EC) and a control group (CC). The experimental group was taught using the Mystery Box learning media, while the control group received instruction through conventional methods. Both groups took a pretest and posttest so that researchers could measure differences in learning outcomes before and after the intervention (Mahmud, 2011). This sampling design followed the non-equivalent control group model, which is commonly used when randomization is not possible in educational contexts. The sample selection process ensured that both groups had similar academic characteristics, thus increasing the comparability of the research results.

Data Collection

This study used a multiple-choice test as a learning outcome instrument. The scores obtained can be said to have a high correlation with the actual scores, indicating that the instrument is reliable. A test is considered reliable if the measurement results are very close to the actual conditions of the test participants (Sudrajat, 2025). To calculate reliability, use the JAMOVI application version 2.7.12. A value ≥ 0.70 is usually considered reliable enough for social, educational, and psychological research. This is the most common limit used by researchers (Manoma, 2016). Nunnally (1978) in Manoma (2016), the minimum limit for Cronbach's Alpha is 0.70. The following Cronbach's Alpha values are presented in Table 1.

Table 1. Cronbach's Alpha Values and Interpretation Cronbach's Alpha

Cronbach's Alpha	Interpretation
≥ 0,90	Excellent
0,80 – 0,89	Good
0,70 – 0,79	Acceptable
0,60 – 0,69	Questionable → Still acceptable for exploratory research
0,50 – 0,59	Poor
< 0,50	Unreliable

(Jannah *et al.*, 2026)

Reliability (U) in a test is generally expressed numerically as a coefficient ranging from -1.00 to +1.00. If reliability reaches a perfect level, the reliability coefficient is +1.00. Ideally, the reliability coefficient should be positive. In other words, the higher the reliability of an instrument, the smaller its measurement error. Conversely, if the reliability of a test score is low, the measurement error will be greater.

This study employed construct validity, which begins by identifying and formulating the variables to be measured, then expressing these variables in the form of logical constructs based on relevant theory. From this theory, practical consequences related to measurement results under certain conditions are derived, and these consequences are then tested. If the results align with expectations, the instrument is considered to have good construct validity (Widodo, 2021). Construct validity in this study was determined using Exploratory Factor Analysis (EFA), which is used when the instrument's construct measurement model is still in the exploratory stage. Next, a computer generated a variance-covariance matrix and calculated eigenvalues, which were used to determine the percentage of explained variance and to create a scree plot. Construct validity was assessed using the JAMOVI application version 2.7.12.

Data Analysis

For operational product testing, this study employed a quasi-experimental design. Prior to data analysis, two prerequisite tests were conducted: first, a normality test aimed at determining whether the data from each variable were normally distributed. The normality test was applied to learning motivation data (pretest and posttest) collected from two classes, namely the control class (KK) and the experimental class (KE). The data were then statistically analyzed using Jamovi version 2.7.12 with the Shapiro-Wilk Multivariate Normality Test to evaluate the normality assumption. If $p > 0.05$, the data were considered normally distributed; if $p < 0.05$, the data were considered non-normally distributed (Ewing & Park, 2020). The normality test was conducted on pretest and posttest scores. The hypothesis testing criteria are as follows:

H_0 : Data is normally distributed
H_1 : Data is not normally distributed

The homogeneity test was conducted to determine whether the samples used in the study came from populations with the same variance. This process was carried out using Jamovi version 2.3.28. Homogeneity is determined based on the significance value (sig.); if sig. > 0.05, the data is considered homogeneous, whereas if sig. < 0.05, the data is considered inhomogeneous. The homogeneity test was applied to pretest and posttest data. The criteria for hypothesis testing are as follows:

H_0 : homogeneous group
H_1 : non-homogeneous group

The field trial used a nonequivalent control group design, which is similar to a pretest-posttest control group design, as presented in Figure 1. This design allows for comparisons between the control and experimental classes, allowing researchers to assess the effect of the intervention while also accounting for baseline differences between the two groups.

Eksperimental Group	*pretest measure* O_1	*treatment* X_1	*posttest measure* O_2
Control Group	*pretest measure* O_3	*treatment* -	*posttest measure* O_4

Figure 1. Quasi-Experimental Design with Nonequivalent Control Group Design (Sugiyono, 2021)

To determine the difference in average scores between the control class and the experimental class, an independent sample t-test was used. Before hypothesis testing was carried out, all prerequisite tests had been carried out to ensure data suitability (assumption testing). The t-test was used to test the effect of the independent variable, namely learning using Mystery Box learning media on the material of grouping animals based on food types, on the dependent variable which included learning outcomes.

The analysis was carried out using JAMOVI version 2.7.12, with a significance level of 5% (α = 0.05). The research hypothesis was formulated as follows:

H_0 : There is no significant difference in learning outcomes between students who receive learning using Mystery Box learning media and those who do not (μ1 = μ2)

H_1 : There is a significant difference in learning outcomes between students who receive learning using Mystery Box learning media and those who do not (μ1 ≠ μ2).

This design allows for researching the effect of treatment with control and experimental groups, there is a clear comparison between the experimental group and the control group, so that the impact of Mystery Box learning media on student learning outcomes can be assessed reliably.

RESULTS

The results of this study provide an overview of the quality of learning outcome instruments and the influence of Mystery Box learning media on the learning outcomes of grade III students. The form of the Mystery Box learning media in this study is presented in Figure 2.

Figure 2. Mystery Box Learning Media

Based on Figure 2, the mystery box learning media is used to encourage students to actively participate in the learning process. The use of this learning media can stimulate students' curiosity, encouraging them to actively engage in class.

Instrument Testing

This study used a learning outcome instrument in the form of a 20-item questionnaire. The questionnaire was piloted on 48 third-grade elementary school students to assess the instrument's reliability and validity. Based on the results of the learning outcome instrument test, analyzed using the JAMOVI application, the research findings are presented.

Table 2. Scale Reliability Statistics

Scale Reliability Statistics

	Cronbach's α
scale	0.928

Source: Jamovi, 2025

Based on the results of the reliability analysis in Table 2, the Cronbach's Alpha value was obtained at 0.928, which indicates that the learning outcome instrument used in this study is in the excellent category according to the reliability interpretation criteria according to Jannah *et al*., (2026). This value exceeds the minimum reliability limit of 0.70 as recommended by Nunnally (1978) in Manoma (2016), so it can be concluded that the instrument has high internal consistency. High reliability indicates that the scores obtained have a strong correlation with the actual scores, so that the measurement error is relatively small. In the context of reliability theory, a coefficient of 0.928 indicates that the instrument is able to measure learning outcomes stably and accurately, and is close to the actual conditions of students. In addition, the average value (Mean) of 4.40 indicates a tendency for students' answers to be in the high category, which strengthens that the questionnaire items are well accepted and understood. Thus, the instrument used in this study has met adequate reliability standards, so it is suitable for use to measure the learning outcomes of grade III students consistently and responsibly.

Table 3. Bartlett's Test of Sphericity

Bartlett's Test of Sphericity		
χ^2	**df**	**p**
923	190	<.001

Source: Jamovi, 2025

The results of the construct validity test in Table 3 show that the Bartlett's Test of Sphericity value is $\chi^2 = 923$ with df = 190 and $p < .001$. This very small significance value indicates that the correlation matrix between instrument items is not identical, so there is a strong enough relationship between items to conduct factor analysis. In theory, the Bartlett's Test is used to check whether the correlation between variables is large enough and meaningful to be analyzed further through Exploratory Factor Analysis (EFA). When the p value < 0.05, this indicates that the correlation between items is significant, which means the instrument has an internal interrelationship structure capable of forming a theoretical construct. Thus, the results of the Bartlett test in this study support that the data meets the requirements for the factor extraction process within the framework of assessing construct validity.

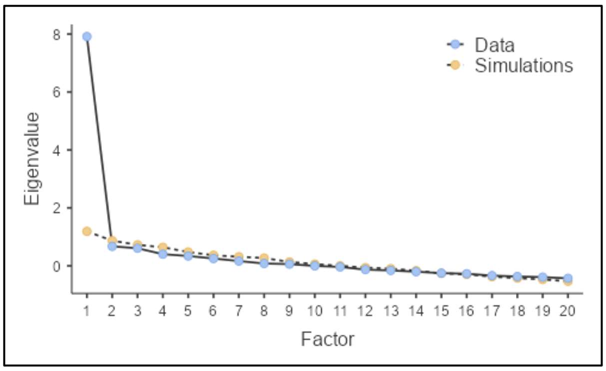

Figure 3. Scree Plot Exploratory Factor Analysis (EFA)

The findings from the scree plot in Figure 3 further strengthen Bartlett's results, as the scree plot shows a clear one-factor drop before the line begins to flatten (elbow). This indicates that there is only one dominant factor explaining most of the data variance. Theoretically, when the scree plot shows one main factor, the instrument is considered unidimensional, meaning that all items consistently measure the same core construct in this context, namely learning outcomes. The agreement between the results of the scree plot and Bartlett's test indicates that the internal structure of the instrument is very strong and consistent in one main dimension. One of the research problems in this study is to test the effect of the Mystery Box learning media on the learning outcomes of third-grade elementary school students. To address these issues, this study employed a quasi-experimental method with a pretest-posttest design. Therefore, it is necessary to calculate the pretest and posttest results. The testing was conducted on 48 elementary school students, consisting of 20 students in the control class (who studied using conventional learning methods) and 28 students in the experimental class (who studied using Mystery Box learning media). The control class was conducted at SDN 5 Ngunut in grade III, while the experimental class was conducted at SDN 1 Kalidawir in grade III.

Test Assumptions

The test consists of 20 validated and tested learning outcome statements. Because this study uses a nonequivalent control group design, measurements are required for both pretest and posttest data. Science learning outcome data (pretest and posttest) were collected from two classes, namely the control class (KK) and the experimental class (KE), then analyzed statistically using Jamovi version 2.7.12 to test the assumptions of normality and homogeneity. Table 4 shows a p-value of 0.232 for the pretest and 0.213 for the posttest, both of which are greater than 0.05. This indicates that the data are normally distributed, and the null hypothesis (H0) is accepted.

Table 4. Normality Test (Shapiro-Wilk)

Normality Test (Shapiro-Wilk)

	W	p
Pretest	0.969	0.232
Posttest	0.968	0.213

Note. A low p-value suggests a violation of the assumption of normality (Source: Jamovi, 2025)

Table 5. Homogeneity of Variances Test (Levene's)

Homogeneity of Variances Test (Levene's)

	F	df	df2	p
Pretest	0.0983	1	46	0.755
Posttest	0.0579	1	46	0.811

Note. A low p-value suggests a violation of the assumption of equal variances (Source: Jamovi, 2025)

Table 5 shows a p-value of 0.755 for the pretest and 0.811 for the posttest, both greater than 0.05. This indicates that the data are homogeneous, and the null hypothesis (H0) is accepted. The prerequisites for conducting an independent sample t-test have been met, namely that the data are normally distributed and homogeneous, allowing further testing. The QQ plots for normality testing support this finding, as the data points tend to align with the normal distribution reference line, as visualized in Figure 4 and Figure 5.

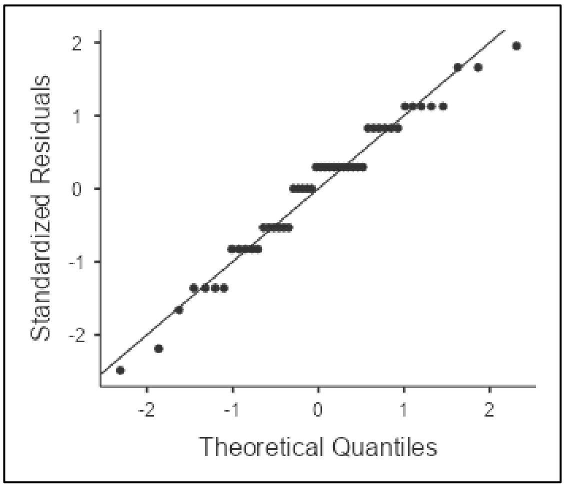

Figure 4. QQ Plot Assessing Multivariate Normality of Initial Questionnaire

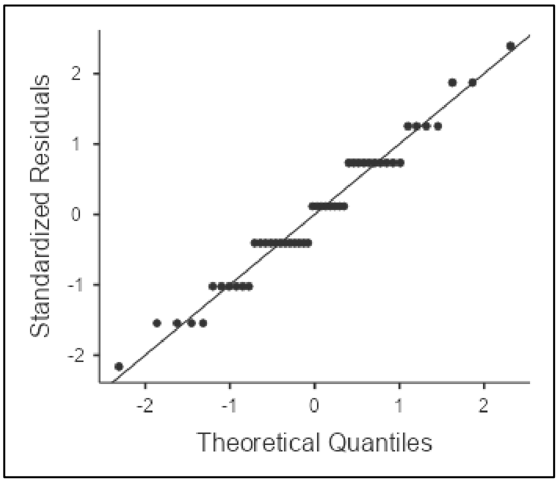

Figure 5. QQ Plot Assessing Multivariate Normality of the Final Questionnaire

As depicted in Figure 4 and Figure 5, the residual points in the QQ plot closely adhere to the reference line, indicating a sufficient normal distribution. This graphical evidence confirms the results of the statistical normality test in Table 4, thus fulfilling the essential requirements for normality. The homogeneity of variance test conducted in Table 5 also indicates equality of score variability between groups, so all assumptions are met to proceed to parametric inferential analysis such as the t-test. Next, an independent sample t-test was conducted.

Hypothesis Testing

Table 6. Independent Samples T-Test

Independent Samples T-Test

		Statistic	df	p
Pretest	**Student's t**	-1.80	46.0	0.078
Posttest	**Student's t**	-13.31	46.0	<.001

Note. H_a $\mu_{Konvensional} \neq \mu_{Mystery\ Box}$ (Source: Jamovi, 2025)

Based on Table 6, the results of the Independent Samples T-Test show that in the pretest, the t-value was 0.078 with a degree of freedom (df) of 46.0 and a p-value of 0.078. This p-value greater than 0.05 indicates that there was no significant difference between the average scores of the control and experimental groups before the intervention, so that both groups were in a balanced initial condition. Meanwhile, in the posttest, the t-value was -13.31 with a df of 46.0 and a p-value <0.001 indicating a significant difference between the control and experimental groups after the intervention. A negative t-value indicates that the average score of the experimental group was higher than the control group. This confirms that the use of Mystery Box learning media has a significant influence on the measured variables, both learning outcomes, and the differences that emerged in the posttest can be attributed to the treatment given, not because of the initial conditions of the two groups. Thus, the Mystery Box learning media has proven effective in improving student learning outcomes in the subject of grouping animals based on their food types.

DISCUSSION

Based on the results of research conducted in grade III, the Mystery Box learning media has an influence on student learning outcomes. During the initial learning process, some students appeared less enthusiastic, especially regarding the material on grouping animals based on their food types. When the Mystery Box learning media was provided, students showed an enthusiastic attitude while learning. Students were also active in the learning process, such as grouping animal pictures into places that match their food types. This shows that interactive learning media is very necessary in science learning that is directly related to scientific concepts with real-life student experiences (Arifah et al., 2025). Not only that, the use of the media must be appropriate so that learning objectives can be achieved more easily (Maharani et al., 2025). Choosing the right learning media is indeed key, so that the learning process can be successfully delivered well.

Mystery Box learning media is defined as media that can be used to deliver material, but this media can also increase student enthusiasm by learning while playing (Putri, 2024). This media contains images related to the learning material to be delivered. In this study, the Mystery Box learning media is useful for helping students understand animal grouping based on their food types. This learning media is also useful as a tool that can increase students' curiosity (Syahrir et al., 2025). This increased curiosity will attract students' attention and engage in learning in a fun way.

The use of learning media plays a crucial role, particularly in improving student learning outcomes (Suprayogo & Putri, 2025). With learning media, students can actively participate in learning activities. This demonstrates that the use of Mystery Box learning media can create an engaging learning environment. Mystery Box media can aid the learning process, particularly in delivering material (Fajeri et al., 2023). Material delivered using this learning media can help students understand concepts.

Not only does it improve understanding, but the use of Mystery Box learning media can foster students' self-confidence and courage (Rakasiwi, 2025). Students will come forward to take pictures of animals, then attach the pictures according to the type of food they have taken. This confidence and courage emerge when students express their opinions about the types of food from the animal pictures they have taken. Using Mystery Box learning media can foster good cooperation among students. Students discuss and help each other in determining the types of animal food. This collaboration can foster an attitude of respect for the opinions of friends (Wati et al., 2020). The benefits of using this media are numerous, making learning that has taken place in the classroom meaningful because it is carried out together.

By using the Mystery Box learning media, student learning outcomes experienced a significant increase. Average student grades increased compared to before using the Mystery Box media. The use of this Mystery Box media can be used by teachers to convey material easily (Pasya et al., 2023). The material can be conveyed by teachers using animal pictures and activities in grouping animals based on their food types. By using this Mystery Box learning media, learning activities in the classroom become fun and not boring (Febrian et al., 2025). The use of this Mystery Box learning media has a very important role, especially in achieving learning objectives.

With the use of Mystery Box learning media, students feel enthusiastic about participating in learning activities (Fausiah et al., 2024). Students are very enthusiastic waiting for their turn to take pictures of animals and paste them based on the type of animal's food. With this enthusiastic attitude of students, students become focused during learning, so that it can influence student learning outcomes. The use of this learning media for grade III, because it is in accordance with the characteristics of grade III children. Grade III elementary school students tend to like learning while playing, therefore, this Mystery Box learning media is suitable for lower grade students (Solikhah et al., 2023). With this learning media, learning materials can be conveyed effectively to students.

This Mystery Box learning media can be used by students with various learning styles, making it an alternative way to deliver learning materials (Salsabila et al., 2025). The presence of animal images can assist students with visual learning styles in the learning process. Students with a hands-on learning style, or what is called a kinesthetic learning style, are helped by taking pictures and then pasting them according to the type of animal they eat. This Mystery Box learning media can be suitable for various learning styles (Kusmawati, 2024). This can make the learning process uniform and comprehensive for students.

Based on the research results, student activity in the classroom has increased. This is evidenced by the students being very active in asking and answering questions. Students also become focused and pay attention to instructions given by the teacher. The presence of this Mystery Box learning media can enliven the classroom atmosphere so that the learning process feels enjoyable for students (Solekah et al., 2023). With students actively participating in the learning process, this also affects student learning outcomes. This improved learning outcomes, this Mystery Box learning media becomes an alternative learning tool for students (Siki et al., 2025). In making this media, it also does not use materials that are difficult to find, but rather simple materials such as cardboard decorated in such a way to attract students' interest and curiosity about this Mystery Box learning media.

Judging from the statement above, the use of Mystery Box learning media has an impact, especially on the learning outcomes of third-grade students. Not only that, but this Mystery Box learning media also has an influence on student motivation, activeness, understanding, and knowledge (Harun et al., 2025). Judging from the results of research observations, learning outcomes have increased significantly. The learning process that is implemented becomes more meaningful and also enjoyable (Sugihwarni et al., 2025). In other words, the use of this Mystery Box learning media is appropriate for use in the learning process, especially on the material of grouping animals based on their type of food.

CONCLUSION

Based on the research results, it can be concluded that the use of Mystery Box learning media has a positive and significant impact on the learning outcomes of third-grade elementary school students, particularly in science and the topic of classifying animals based on their diet. This is evidenced by the fact that students in the experimental group, who received the Mystery Box learning media treatment, achieved higher average scores than those in the control group, who received conventional learning. The Mystery Box learning media can stimulate students' curiosity, leading to increased enthusiasm and focus during the lesson. Students gain a better understanding and are able to differentiate between carnivores, herbivores, and omnivores.

The use of Mystery Box learning media can help students actively participate in learning and enliven the classroom atmosphere, making it more enjoyable. In other words, the Mystery Box learning media can be used as an alternative learning medium to help students understand the material presented. Furthermore, the use of Mystery Box learning media can also make the learning process more meaningful.

This research has both theoretical and practical implications. The theoretical implication is that using mystery box learning media can improve student learning outcomes, while the practical implication is that mystery box learning media can be an alternative for teachers in delivering material, creating a more enjoyable learning environment.

Despite its theoretical and practical implications, this study also has limitations. First, although the study involved two schools in the control and experimental groups, the sample size was limited. Second, the study employed only a quantitative approach, thus uncovering other phenomena that may influence learning outcomes. Therefore, future research is recommended to expand the scope of this media's application in science learning to assess the consistency of its findings. Furthermore, the use of a mixed methods approach is recommended to obtain comprehensive research findings that also reveal phenomena that emerge during the learning process.

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