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Efforts to Increase Student Motivation to Learn by Using Mystery Boxes in Science Lessons

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Abstract
This study was motivated by the fact that field observations showed that student motivation in science learning was still relatively low due to the lack of variety in learning media used. This study aimed to increase student motivation through the use of Mystery Box media in science learning. This study was a classroom action research (CAR) conducted at SDN 04 Bejen with 24 students as research subjects. The research was conducted in two cycles, each consisting of the planning, implementation, observation, and reflection stages. Data collection techniques used observation, learning motivation questionnaires, and documentation. The data were analyzed descriptively, qualitatively, and quantitatively. The results showed that the use of Mystery Box media could increase student learning motivation. The percentage of students with good learning motivation increased from 33.3% in the pre-cycle to 62.5% in cycle I and increased again to 83.3% in cycle II. The increase in student learning motivation was demonstrated by increased attention, activity, enthusiasm, and student involvement in IPAS learning. Thus, it can be concluded that the Mystery Box media is effective as an alternative learning media to increase student learning motivation in IPAS learning.
***Keywords**: learning motivation, Mystery Box, IPAS, classroom action research*

Abstrak
Penelitian ini dilatar belakangi oleh kenyataan di lapangan menunjukkan bahwa motivasi belajar siswa pada pembelajaran IPAS masih tergolong rendah akibat penggunaan media pembelajaran yang kurang variatif. Penelitian ini bertujuan untuk meningkatkan motivasi belajar siswa melalui penggunaan media Mystery Box dalam pembelajaran IPAS. Penelitian ini merupakan Penelitian Tindakan Kelas (PTK) yang dilaksanakan di SDN 04 Bejen dengan subjek penelitian sebanyak 24 siswa. Penelitian dilakukan dalam dua siklus, yang masing-masing terdiri atas tahap perencanaan, pelaksanaan tindakan, observasi, dan refleksi. Teknik pengumpulan data menggunakan observasi, angket motivasi belajar, dan dokumentasi. Data dianalisis secara deskriptif kualitatif dan kuantitatif. Hasil penelitian menunjukkan bahwa penggunaan media Mystery Box dapat meningkatkan motivasi belajar siswa. Persentase siswa dengan motivasi belajar kategori baik mengalami peningkatan dari 33,3% pada pra siklus, menjadi 62,5% pada siklus I, dan meningkat kembali menjadi 83,3% pada siklus II. Peningkatan motivasi belajar siswa ditunjukkan melalui meningkatnya perhatian, keaktifan, antusiasme, serta keterlibatan siswa dalam pembelajaran IPAS. Dengan demikian, dapat disimpulkan bahwa media Mystery Box efektif digunakan sebagai alternatif media pembelajaran untuk meningkatkan motivasi belajar siswa pada pembelajaran IPAS.
Kata kunci: motivasi belajar, Mystery Box, IPAS, penelitian tindakan kelas

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INTRODUCTION

Education plays an important role in shaping the quality of human resources who are able to think critically, creatively, and adaptively in response to developments of the times. In the formal education process, learning in primary school forms the initial foundation for shaping the attitudes, skills, and knowledge of students. The success of learning is not only determined by students' ability to understand the material, but is also influenced by their mental readiness and internal motivation to learn. One psychological aspect that greatly determines learning success is learning motivation. Learning motivation serves as a driving force that fosters enthusiasm, perseverance, and activity in students in following the learning process. Schunk, Meece, and Pintrich (2014) explain that motivation is a factor that influences the direction, intensity, and persistence of learning behaviour. In other words, learning motivation is the key factor that determines whether students will be actively involved in learning or passive and easily give up.

Learning motivation in primary school students has distinctive characteristics. At this age, students tend to be highly curious, but they also get bored easily if the learning process is monotonous and does not provide an enjoyable learning experience. Therefore, learning needs to be designed in a way that arouses students' interest, provides appropriate challenges, and creates a meaningful learning atmosphere. According to Uno (2017), indicators of learning motivation can be seen from the desire to succeed, the drive and need to learn, perseverance in completing tasks, and interest in learning activities. When learning motivation is low, students will exhibit behaviours such as paying little attention to the teacher's explanations, being reluctant to ask or answer questions, being less active in discussions, and being unenthusiastic about completing tasks. This condition can have an impact on low conceptual understanding and learning achievement.

In the implementation of the Merdeka Curriculum, IPAS (Natural and Social Sciences) learning in primary schools is designed to help students understand natural and social phenomena in an integrated, contextual, and experience-based manner. IPAS learning not only requires mastery of concepts, but also develops scientific thinking skills, observation skills, grouping skills, reasoning skills, and the ability to relate the material to everyday life. However, in practice, IPAS learning is often considered difficult and uninteresting by students because the material contains concepts that are sometimes abstract and require deep understanding. This condition poses a challenge for teachers to package learning in a way that is more concrete, interesting, and actively involves students. Valenzuela, Delgado, and Suárez (2024) emphasise that student involvement in meaningful learning activities will have an impact on increasing motivation and learning achievement. This means that IPAS learning needs to be supported by strategies and media that can arouse students' curiosity so that they are encouraged to actively explore concepts.

The phenomenon of low student learning motivation was also found in real conditions in the field, particularly at SDN 04 Bejen. Based on the results of initial observations before the action was taken, IPAS learning showed a tendency for students to be passive and less enthusiastic. Some students did not pay attention to the teacher's explanations, rarely asked questions, and did not participate in group discussions. In addition, when given assignments, some students completed them hastily without showing perseverance. These conditions indicated that student learning motivation was not optimal. One of the factors influencing this low motivation is that learning is still dominated by teacher explanations and the limited use of learning media, so that students do not get interesting and challenging learning experiences. This is in line with the findings of Putri and Isnani (2015), who stated that monotonous and less varied learning can cause students to get bored easily and reduce their motivation to learn.

From a theoretical perspective, learning motivation is closely linked to learning engagement and achievement. Empirical studies over the past decade consistently demonstrate that students with higher learning motivation tend to achieve better academic outcomes, particularly in science learning at the primary level (Cahyono, 2022; Sari et al., 2021; Wibawa, 2024). Furthermore, motivation is influenced by both internal factors, such as interest and self-efficacy, and external factors, including instructional strategies, learning environments, and the use of appropriate learning media (Schunk et al., 2014; Basira, 2025). Therefore, improving students' learning motivation requires deliberate instructional interventions that promote active participation, meaningful learning experiences, and student-centered approaches.

Based on these conditions, this study is conducted as a classroom action research aimed at improving instructional practices in IPAS learning. Hopkins (2008) states that classroom action research is a reflective and systematic process carried out by teachers to improve the quality of learning practices in their own classrooms through planned actions and continuous reflection. In this context, the present study seeks to examine the initial condition of students' learning motivation in IPAS learning at SDN 04 Bejen, to describe the implementation of instructional actions designed to enhance students' motivation, and to determine the extent to which these actions can improve students' learning motivation. Accordingly, the research addresses the issues of how students' learning motivation manifests prior to the intervention, how the instructional actions are implemented during IPAS learning, and how effective these actions are in increasing students' learning motivation. Through this study, it is expected that meaningful contributions can be made to improving IPAS learning practices in primary schools, particularly in fostering students' learning motivation through more engaging, active, and meaningful instructional approaches.

METHOD

This study employed a classroom action research (CAR) design using a descriptive qualitative and quantitative approach. The research was conducted at SDN 04 Bejen and involved 24 primary school students as research participants. The study was carried out in 2026 during the second semester.Classroom action research was selected to address the issue of low learning motivation in IPAS learning through systematic instructional improvement. The research was implemented in two action cycles, each consisting of the stages of planning, action, observation, and reflection, allowing continuous evaluation and refinement of instructional practices (Hopkins, 2008).

The instructional intervention involved the use of Mystery Box media in IPAS learning. During the planning stage, lesson plans integrating Mystery Box activities were collaboratively developed by the researcher and the classroom teacher. In the action stage, the Mystery Box was used as an interactive learning medium to stimulate students' curiosity, encourage active participation, and support concept exploration. Observations were conducted during each cycle to monitor students' learning motivation, focusing on indicators such as attention, activeness, enthusiasm, and perseverance. Reflections at the end of each cycle were used to identify areas for improvement and optimize the implementation in the subsequent cycle.

Data were collected through observation, learning motivation questionnaires, and documentation**.** Quantitative data from the questionnaires were analyzed descriptively using percentages to identify changes in students' motivation levels across the pre-cycle, Cycle I, and Cycle II. Qualitative data from observations and documentation were analyzed descriptively to support and interpret the quantitative findings. To ensure data credibility,

triangulation of data collection techniques was applied by comparing observation results, questionnaire data, and documentation.

RESULTS AND DISCUSSION

The results of this classroom action research demonstrate a substantial improvement in students' learning motivation in IPAS learning through the implementation of Mystery Box media. Students' learning motivation was assessed at three stages: pre-cycle, Cycle I, and Cycle II, using a motivation questionnaire and structured observation. The quantitative results show consistent improvement across cycles, supported by qualitative observation findings.

In the pre-cycle, students' learning motivation was relatively low, with only 33.3% of students categorized as having good learning motivation. The mean motivation score at this stage was 61.4, indicating that most students showed limited attention, low participation, and minimal enthusiasm during learning activities. These findings confirmed the initial classroom problem of low motivation.

Following the implementation of Mystery Box media in Cycle I, students' learning motivation improved significantly. The percentage of students with good learning motivation increased to 62.5%, while the mean motivation score rose to 72.6. Students began to demonstrate greater curiosity, improved attention, and increased participation in classroom discussions. However, some students still required encouragement to actively express their ideas.

In Cycle II, instructional improvements were made based on reflections from Cycle I, including increased opportunities for student interaction and optimized use of Mystery Box activities. As a result, students' learning motivation improved further, with 83.3% of students achieving good motivation levels. The mean motivation score increased to 82.9, indicating a high level of motivation among most students. Students showed strong enthusiasm, active involvement, sustained attention, and perseverance in completing learning tasks.

A comparison of students' learning motivation between Cycle I and Cycle II is presented in Table 1.

Table 1. Comparison of Students' Learning Motivation by Cycle

Cycle	Mean Motivation Score	Percentage of Students with Good Motivation
Pre-cycle	61.4	33.3%
Cycle I	72.6	62.5%
Cycle II	82.9	83.3%

The findings of this study demonstrate that the use of Mystery Box media can effectively improve students' learning motivation in IPAS learning. The observed increase in motivation aligns with motivational learning theory, which emphasizes that learning activities designed to stimulate curiosity and active engagement can enhance students' intrinsic motivation (Schunk, Meece, & Pintrich, 2014). Mystery Box media created an element of surprise and inquiry, encouraging students to actively explore learning content rather than passively receive information.

The improvement in Cycle I suggests that introducing interactive and concrete learning media can immediately influence students' attention and interest. This finding is consistent with Uno (2017), who states that motivation is closely related to students' interest

and engagement in learning activities. However, the continued improvement in Cycle II highlights the importance of reflection and instructional refinement in classroom action research. By increasing student participation and providing more opportunities for interaction, students became more confident and actively involved in learning.

Furthermore, the results support previous studies indicating that innovative and interactive learning media contribute positively to students' motivation and engagement in science learning at the primary level (Hikmah & Alwi, 2023; Darmawan & Firdausa, 2024). The Mystery Box media enabled learning to become more concrete and meaningful, which is particularly important for primary school students who are at the concrete operational stage of cognitive development. Through hands-on interaction and collaborative discussion, students were better able to connect learning concepts with their experiences.

Overall, the findings suggest that Mystery Box media not only enhances students' motivation but also creates a more engaging and student-centered learning environment. The substantial increase in learning motivation from Cycle I to Cycle II confirms that Mystery Box media is an effective alternative instructional medium for improving learning motivation in IPAS learning.

CONCLUSION

This study demonstrates that the use of Mystery Box media effectively enhances primary school students' learning motivation in IPAS learning. The implementation of this interactive medium resulted in consistent improvements in students' motivation levels, as evidenced by increased mean scores, motivation categories, and a moderate gain score. Mystery Box media fostered greater attention, activeness, enthusiasm, and student involvement during learning activities. Although this study was limited to a single classroom context, the findings indicate that Mystery Box media can serve as an effective alternative instructional medium for improving learning motivation in primary education and has potential for broader application in similar learning contexts.

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