

IMPROVING FOURTH-GRADE STUDENTS' SCIENCE AND SOCIAL STUDIES LEARNING OUTCOMES THROUGH THE EXAMPLE NON-EXAMPLE LEARNING MODEL ASSISTED BY POWERPOINT MEDIA AT SD NEGERI 104/II SUNGAI PINANG

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ABSTRACT

This study aims to improve the learning process and learning outcomes of IPAS for fourth-grade students at SD Negeri 104/II Sungai Pinang through the implementation of the Example Non-Example model assisted by PowerPoint media. The method used was Classroom Action Research (CAR), conducted in two cycles consisting of the stages of planning, implementation, observation, and reflection, with 30 students as the research subjects. Data collection techniques were carried out through observation, tests, and documentation, while data analysis used qualitative and quantitative approaches. The results showed that there was an improvement in students' learning outcomes at each stage. In the pre-action stage, 9 students (30%) achieved mastery, increasing in Cycle I to 14 students (46.67%), and in Cycle II increasing to 26 students (86.67%). In addition, the learning process also improved, marked by increased student activeness in discussions, confidence in expressing opinions, and the ability to conclude the material. Thus, it can be concluded that the implementation of the Example Non-Example model assisted by PowerPoint media is effective in improving the learning process and learning outcomes of IPAS students.

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INTRODUCTION

Education is a deliberate and systematic effort to create a learning environment that enables students to develop their full potential, including their spiritual values, personality, intellectual abilities, and practical skills (Ichsan & Hadiyanto, 2021). As a fundamental human necessity, education equips individuals with the competencies required to navigate life effectively. One of the most essential components in achieving educational objectives is the curriculum

(Megawati & Sari, 2022). In response to rapid societal and technological changes, Indonesia's education system has undergone continuous reforms aimed at improving the quality and relevance of learning.

One significant reform is the implementation of the Merdeka Curriculum, which integrates Natural Sciences (IPA) and Social Sciences (IPS) into a single interdisciplinary subject known as Science and Social Studies (IPAS). This integration is based on the developmental characteristics of elementary school students, who tend to perceive phenomena holistically rather than as separate disciplines (Marwa et al., 2023). The curriculum reform is firmly grounded in national educational policies and legislation, particularly Law No. 20 of 2003 on the National Education System, which defines the curriculum as a set of plans and arrangements concerning educational objectives, content, learning materials, and instructional methods that serve as guidelines for implementing educational activities to achieve national education goals (Andreani & Gunansyah, 2023).

Through Science and Social Studies (IPAS) learning, students are expected to understand the interrelationships between natural and social phenomena while developing critical and analytical thinking skills (Susilowati, 2023, p. 189). Consequently, IPAS learning is designed not only to facilitate students' mastery of subject matter but also to foster broader, contextual, and higher-order thinking skills in accordance with the objectives of the current curriculum.

Despite these expectations, the implementation of IPAS learning in elementary schools continues to face several challenges. Based on classroom observations conducted from 18 to 21 September 2025 in the fourth grade of SD Negeri 104/II Sungai Pinang, the IPAS learning process had not been implemented optimally. Students tended to be passive, showed limited participation in classroom interactions, and experienced difficulties in communicating and collaborating with their classmates.

Most students were unable to express their opinions confidently when asked to speak in front of the class, lacked confidence in presenting their work, and encountered difficulties in organizing information and drawing conclusions from the learning materials. These conditions contributed to low learning outcomes, with only 30% of students achieving the predetermined learning achievement criteria. Furthermore, the limited use of engaging instructional media reduced students' attention and concentration during classroom activities. Previous research has demonstrated that learning experiences involving students' active participation significantly enhance conceptual understanding and academic achievement (Rahmawati et al., 2023). These findings indicate that the success of IPAS learning largely depends on students' active engagement and the instructional strategies employed by teachers in the classroom.

One alternative proposed in this study to improve students' learning outcomes is the implementation of the Example Non-Example learning model supported by PowerPoint as an interactive instructional medium for presenting visual materials. The Example Non-Example cooperative learning model promotes active learning by encouraging students to retain information from learning materials, construct concepts progressively through experience, express their ideas, and connect newly acquired knowledge with their prior understanding (Mahadewi & Hendratno, 2020). This learning model utilizes collaborative group activities and visual media, particularly images, to facilitate students' comprehension and engagement during the learning process (Apduludin, 2023).

Previous studies have consistently demonstrated that the application of innovative instructional models can improve both the quality of the learning process and students' academic achievement. However, most existing studies have focused on either instructional models or learning media independently rather than examining their combined implementation. The Example Non-Example learning model encourages students to analyze real-world problems through the observation and interpretation of visual examples, including pictures, photographs, and problem-based cases (Nando et al., 2021). According to Restiani (2019), active and enjoyable learning models represent an effective instructional alternative for teachers in creating meaningful classroom experiences. The use of the Example Non-Example model, which employs images as instructional media, enables students to analyze concepts through visual observation, thereby increasing their active participation throughout the learning process (Ilahi et al., 2022).

Meanwhile, PowerPoint serves as an effective presentation medium by integrating text, images, audio, visual elements, and animations into a single instructional platform. Such integration enhances students' interest and facilitates a deeper understanding of learning materials (Muthoharoh, 2019). Furthermore, PowerPoint has been shown to improve students' conceptual understanding through its engaging and interactive presentation format, making instructional content more accessible and easier to comprehend (Wyn et al., 2021). Therefore, integrating an appropriate instructional model with suitable learning media represents a strategic approach to creating more interactive, engaging, and meaningful learning experiences. This indicates a research gap, namely the limited integration of the Example Non-Example learning model with PowerPoint media in Science and Social Studies (IPAS) instruction at the elementary school level.

Based on these issues, this study addresses the following research questions: (1) How does the implementation of the Example Non-Example learning model assisted by PowerPoint media improve the Science and Social Studies (IPAS) learning process? and (2) How does the implementation of this instructional model improve the learning outcomes of fourth-grade students at SD Negeri 104/II Sungai Pinang? Accordingly, this study aims to describe the improvement in both the learning process and students' learning outcomes in IPAS through the application of the Example Non-Example learning model supported by PowerPoint media. The research was conducted within the context of elementary school

IPAS instruction, with fourth-grade students serving as the unit of analysis. It is expected that the findings of this study will provide meaningful contributions to improving instructional practices in elementary education.

This study is based on the assumption that implementing the Example Non-Example learning model supported by PowerPoint media can enhance students' active engagement through observation, analysis, discussion, and presentation of learning outcomes. Accordingly, the action hypothesis proposes that the implementation of the Example Non-Example learning model assisted by PowerPoint media will improve both the learning process and students' learning outcomes in Science and Social Studies (IPAS). This assumption is grounded in the need for instructional approaches that actively engage students while utilizing instructional media capable of capturing learners' attention and facilitating conceptual understanding. This article is organized into four main sections: the introduction, research methodology, results and discussion, and conclusion.

METHOD

This study employed Classroom Action Research (CAR) to improve the learning process and learning outcomes in Science and Social Studies (IPAS) through the implementation of the Example Non-Example learning model assisted by PowerPoint media. The research was conducted in a fourth-grade classroom at SD Negeri 104/II Sungai Pinang, located in Bungo Dani District, Bungo Regency, Indonesia. The participants consisted of 30 fourth-grade students, with the classroom teacher serving as a collaborator, while the researcher acted as the practitioner responsible for implementing the instructional intervention.

The study followed the Classroom Action Research procedure proposed by Arikunto et al. (2015), which consists of four sequential stages in each cycle: planning, action (implementation), observation, and reflection. The research was carried out over two action cycles, with each cycle comprising two instructional meetings. Cycle I was conducted on the 3rd and 4th, while Cycle II took place on the 10th and 11th. Each cycle began with the preparation of lesson plans and research instruments, followed by the implementation of the Example Non-Example learning model supported by PowerPoint media. Subsequently, observations were conducted to evaluate both teacher and student activities, and the findings were reflected upon to identify necessary improvements for the subsequent cycle.

The research instruments included observation sheets, learning achievement tests, and semi-structured interviews, while PowerPoint presentations were utilized as instructional media to support the learning process. Data were collected through classroom observations, achievement tests, and interviews. Qualitative data were analyzed using the interactive analysis model consisting of data reduction, data display, and conclusion drawing, whereas quantitative data were analyzed by calculating mean scores and the percentage of students achieving mastery learning. To ensure the trustworthiness and validity of the findings, methodological triangulation (technique triangulation) and source triangulation were employed to verify the consistency and credibility of the collected data.

RESULTS AND DISCUSSION

The findings of this study were obtained through the pre-action stage and the implementation of the Science and Social Studies (IPAS) learning intervention using the Example Non-Example learning model supported by PowerPoint media. The intervention was conducted over two action cycles, with each cycle consisting of two instructional meetings. Cycle I was implemented on 3 and 4 October 2025, while Cycle II was conducted on 10 and 11 October 2025. The data comprised two main components: (1) the learning process, which was evaluated using classroom observation sheets, and (2) students' learning outcomes, which were measured through achievement tests administered at the end of each stage.

During the pre-action phase, the teaching and learning process had not yet been implemented optimally, as classroom instruction remained predominantly teacher-centered. Students demonstrated limited participation in learning activities, including observing, discussing, analyzing, and expressing their ideas. Consequently, students' academic performance was relatively low, with only 9 out of 30 students (30%) achieving the predetermined mastery learning criteria.

Cycle I

Learning Process

The evaluation of the learning process was based on classroom observation sheets that documented students' learning activities during the instructional sessions conducted on 3 and 4 October 2025. The implementation of the Example Non-Example learning model assisted by PowerPoint media demonstrated a gradual improvement in students' learning engagement across the two meetings of Cycle I.

During the first meeting of Cycle I, the teacher introduced the instructional procedures of the Example Non-Example learning model supported by PowerPoint media. The teacher prepared the instructional materials and presented a series of visual images for students to observe and analyze. Although the learning model was implemented according to the planned instructional procedures, several challenges remained evident. Many students were still reluctant to participate actively in group discussions, lacked confidence in expressing their opinions, and were not fully engaged in

drawing conclusions from the learning activities. The classroom observation results indicated that the majority of students had not yet demonstrated an optimal level of participation throughout the learning process.

In the second meeting, notable improvements were observed in both instructional implementation and students' classroom engagement. The teacher provided more effective guidance during group discussions and created greater opportunities for students to present the outcomes of their collaborative work. Students became increasingly involved in classroom activities by actively participating in discussions, recording discussion results, and expressing their opinions with greater confidence. Nevertheless, several students continued to demonstrate limited participation and required further encouragement to engage fully in the learning activities. The progressive improvement in students' learning process during Cycle I is presented in the following **Table 1**.

Table 1. Students' Learning Process Outcomes in Cycle I

Score Interval	Score Interval	Score Interval	Score Interval
80–100	8	Excellent	26,67%
61–79	10	Good	33,33%
41–60	7	Fair	23,33%
≤ 40	5	Poor	16,67%
Total	30		100%

Based on Table 1, the findings indicate that during Cycle I of Science and Social Studies (IPAS) instruction, 8 students (26.67%) achieved the Excellent category, 10 students (33.33%) were classified as Good, 7 students (23.33%) fell into the Fair category, and 5 students (16.67%) were categorized as Poor. These findings suggest that students' engagement in the learning process showed a positive improvement following the implementation of the Example Non-Example learning model assisted by PowerPoint media. However, several students had not yet participated optimally in the learning activities, indicating the need for further instructional refinement in the subsequent cycle.

Learning Outcomes

At the conclusion of Cycle I, a learning achievement test was administered to evaluate students' understanding of the instructional content following the implementation of the Example Non-Example learning model supported by PowerPoint media. The test was designed to assess the extent of students' learning achievement and to determine the effectiveness of the instructional intervention. In addition, the results served as the basis for planning improvements to be implemented in the subsequent action cycle. The analysis of the test results provided information regarding the number of students who achieved the predetermined mastery learning criteria. The students' learning outcomes in Cycle I are presented in the following **Table 2**.

Table 2. Students' Learning Outcomes in Cycle I

Score Interval	Score Interval	Score Interval	Score Interval
≥ 70	18	Mastery	60%
< 70	12	Non-Mastery	40%
Total	30		100%

Based on Table 2, it can be observed that during Cycle I of Science and Social Studies (IPAS) instruction, 18 students (60%) achieved the predetermined mastery learning criteria, while 12 students (40%) did not achieve mastery. These findings indicate that students' learning outcomes improved compared with the initial condition (pre-intervention stage). The increase in the percentage of students achieving mastery suggests that the implementation of the Example Non-Example learning model assisted by PowerPoint media contributed positively to students' understanding of the learning material.

Cycle II

Learning Process

During Cycle II, which was conducted on 10 and 11 October 2025, the instructional process was improved based on the reflections and evaluation of Cycle I. The learning activities were implemented by applying the Example Non-Example learning model assisted by PowerPoint media more effectively and in accordance with the prescribed instructional procedures.

The classroom observation results indicated that nearly all stages of the instructional process were implemented successfully. These stages included preparing the instructional media, presenting visual materials, guiding students to observe and analyze the images, facilitating group discussions, and providing opportunities for students to present the outcomes of their collaborative work. However, the teacher's guidance in assisting students to formulate conclusions from the lesson had not yet reached an optimal level during the initial stage of Cycle II.

Following the instructional improvements, students' learning engagement increased considerably. Students became more attentive to the instructional media, participated more actively in group discussions, and systematically recorded the results of their discussions. Furthermore, students demonstrated greater involvement throughout each stage of the learning process.

During the subsequent meeting, all aspects of the instructional process, including both teacher performance and student participation, were implemented at an excellent level. The teacher successfully carried out every phase of the Example Non-Example learning model, including guiding students in drawing conclusions and conducting learning evaluations. Likewise, students demonstrated a high level of active participation throughout all learning activities, including observing visual materials, engaging in group discussions, recording discussion outcomes, presenting group work, and expressing their opinions confidently. The improvement in students' learning process during Cycle II is presented in **Table 3**.

Table 3. Students' Learning Process Outcomes in Cycle II

Score Interval	Number of Students	Category	Percentage (%)
80–100	18	Excellent	60,00
61–79	8	Good	26,67
41–60	4	Fair	13,33
≤ 40	0	Poor	0,00
Total	30		100,00

Based on **Table 3**, the results demonstrate a substantial improvement in students' learning process during Cycle II of Science and Social Studies (IPAS) instruction. A total of 18 students (60,00%) achieved the Excellent category, 8 students (26,67%) were classified as Good, and 4 students (13,33%) were categorized as Fair, while no students were classified as Poor. These findings indicate that the implementation of the Example Non-Example learning model assisted by PowerPoint media effectively enhanced students' active participation and engagement throughout the learning process.

Learning Outcomes

During Cycle II, which was conducted on 10 and 11 October 2025, the Example Non-Example learning model assisted by PowerPoint media was implemented more effectively than in the previous cycle. During the first meeting, nearly all stages of the instructional process were carried out successfully, although several aspects still required improvement, particularly the teacher's guidance in assisting students to formulate conclusions from the lesson. By the second meeting, the instructional process had been implemented optimally. The teacher successfully executed all stages of the learning model, while students demonstrated a high level of participation and engagement throughout the learning activities.

At the end of Cycle II, a learning achievement test was administered to assess students' understanding of the instructional content following the implementation of the Example Non-Example learning model supported by PowerPoint media. The test was intended to evaluate the improvement in students' learning outcomes after the instructional intervention. The results provided information regarding the number of students who achieved the predetermined mastery learning criteria. The students' learning outcomes in Cycle II are presented in **Table 4**.

Table 4. Students' Learning Outcomes in Cycle II

Score Interval	Number of Students	Learning Achievement	Percentage (%)
≥ 70	26	Mastery	86,67
< 70	4	Non-Mastery	13,33
Total	30		100,00

Based on Table 4, the findings indicate that during Cycle II of Science and Social Studies (IPAS) instruction, 26 students (86,67%) achieved the predetermined mastery learning criteria, while 4 students (13,33%) did not achieve mastery. This level of mastery demonstrates that the majority of students successfully met the expected learning objectives. These findings suggest that the instructional process in Cycle II was implemented more effectively than in the previous cycle, both in terms of the teacher's instructional management and students' active participation throughout the learning activities. Consequently, classical learning mastery was successfully achieved in Cycle II, indicating that the instructional intervention was effective in improving students' academic achievement.

Overall, the findings from both the classroom observations and the learning achievement tests demonstrate that the implementation of the Example Non-Example learning model assisted by PowerPoint media progressively enhanced the quality of instruction from the pre-intervention stage through Cycle I and Cycle II. During the pre-intervention stage, the learning process was not yet optimal, as reflected by students' limited participation in classroom activities and low academic achievement, with only 30% of students meeting the predetermined mastery learning criteria. Following the implementation of the intervention in Cycle I, improvements in the instructional process became evident, as students' active participation increased from 26,67% in the first meeting to 53,33% in the second meeting. Nevertheless, the learning process had not yet reached the expected level of effectiveness, and students' learning mastery increased to only 46,67%.

In Cycle II, the quality of the instructional process improved substantially compared with the previous cycle. Students' active participation continued to increase, reaching the Excellent category, rising from 73,33% during the first meeting to 93,33% during the second meeting. This improvement was accompanied by a significant increase in students' learning outcomes, with 86,67% of students successfully achieving the predetermined mastery learning criteria. These findings indicate that the implementation of the Example Non-Example learning model supported by PowerPoint media not only promoted a more active, engaging, and effective learning process but also contributed significantly to improving students' overall academic achievement.

Discussion

The classroom action research conducted in the fourth grade of SD Negeri 104/II Sungai Pinang was implemented successfully, as evidenced by the classroom observation results, which demonstrated substantial improvements in the teaching and learning process. Prior to the intervention, classroom instruction was predominantly teacher-centered, limiting students' opportunities for active participation. During the learning process, many students paid little attention to the teacher's explanations and instead engaged in off-task behaviors, such as talking with their classmates, playing, drawing, eating, and frequently leaving and re-entering the classroom. Furthermore, the limited variation in instructional methods and learning media caused students to lose interest quickly and reduced their concentration during lessons. Consequently, the intended learning objectives were not achieved optimally, resulting in relatively low student learning outcomes.

To address these challenges, the researcher implemented the Example Non-Example learning model supported by PowerPoint media. The Example Non-Example learning model is derived from the Concept Attainment Model, originally introduced by Jerome Bruner as an inductive instructional strategy designed to facilitate concept formation through the use of examples and non-examples. Within this instructional approach, students are encouraged to compare and analyze examples and non-examples of a particular concept in order to identify their distinguishing characteristics and independently construct conceptual definitions. In practice, the instructional process begins with the teacher presenting examples and non-examples, followed by students observing and identifying their defining attributes, formulating hypotheses regarding the underlying concept, and subsequently testing these hypotheses through additional examples to reinforce conceptual understanding. This process not only promotes a deeper understanding of concepts but also fosters students' active engagement, critical thinking, and classification skills, all of which are essential for meaningful learning (Lisnani, 2019).

The implementation of this learning model was expected to address students' learning difficulties by encouraging greater participation throughout the instructional process. By actively engaging students in observing, analyzing, discussing, and presenting ideas, the model stimulates the effective use of students' cognitive abilities, thereby facilitating a more comprehensive understanding of the learning material presented by the teacher (Partono & Fransiska, 2020). Furthermore, Sabrina et al. (2023) argue that instructional media constitute a fundamental component of the teaching and learning system and play a decisive role in determining the success of classroom instruction. PowerPoint is a multimedia presentation application included in the Microsoft Office suite that integrates text, images, videos, animations, and other visual elements into an engaging and easily understandable instructional format (Astutik et al., 2021). The integration of an innovative instructional model with interactive learning media creates a learning environment that encourages students to participate actively. Through collaborative group activities, students become more engaged in constructing knowledge, resulting in more meaningful and effective learning experiences.

The findings from both action cycles demonstrate that the learning process of the fourth-grade students at SD Negeri 104/II Sungai Pinang improved considerably following the implementation of the Example Non-Example learning model assisted by PowerPoint media. During Cycle I, students' active participation increased from 26,67% in the first meeting to 53,33% in the second meeting. In Cycle II, student engagement improved even more substantially, rising from 73,33% during the first meeting to 93,33% during the second meeting. These improvements in the instructional process were accompanied by corresponding gains in students' academic achievement. The percentage of students who achieved the predetermined mastery learning criteria increased to 46,67% in Cycle I and further improved to 86,67% in Cycle II. These findings indicate that the implementation of the Example Non-Example learning model supported by PowerPoint media progressively enhanced both the quality of the learning process and students' learning outcomes. Therefore, the action hypothesis proposed in this classroom action research was supported. The implementation of the instructional intervention across both action cycles successfully increased students' motivation, participation, and engagement during classroom learning. Overall, each cycle demonstrated continuous improvements in both the learning process and students' learning outcomes, as summarized in the following table.

CONCLUSION

This classroom action research demonstrated that the implementation of the Example Non-Example learning model assisted by PowerPoint media effectively improved both the learning process and students' learning outcomes in Science and Social Studies (IPAS) among fourth-grade students at SD Negeri 104/II Sungai Pinang. The intervention resulted in a gradual increase in students' active participation throughout the learning process, as reflected in their greater

involvement in observing, analyzing, discussing, presenting, and drawing conclusions. These findings indicate that the integration of an interactive instructional model with multimedia support successfully fostered a more student-centered and engaging learning environment.

The improvement in the learning process was accompanied by a substantial increase in students' academic achievement. The percentage of students who achieved the predetermined mastery learning criteria increased from 30% during the pre-intervention stage to 60% in Cycle I and 86.67% in Cycle II. These results demonstrate that the instructional intervention effectively enhanced students' conceptual understanding and overall learning outcomes in Science and Social Studies (IPAS), thereby confirming the proposed action hypothesis.

Based on these findings, the Example Non-Example learning model assisted by PowerPoint media can be considered an effective instructional strategy for elementary school classrooms. This approach is recommended for teachers seeking to promote active learning, improve classroom engagement, and enhance students' academic performance. Future research is encouraged to examine the effectiveness of this instructional model across different educational contexts, grade levels, subject areas, and technology-supported learning environments to further validate and extend the present findings.

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