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The Effectiveness of Implementing the Inside-Outside Circle Cooperative Learning Model on Social Skills and Conceptual Understanding of Science in Elementary Schools

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ABSTRACT

This study aims to analyze the effectiveness of implementing the Inside-Outside Circle (IOC) cooperative learning model on social skills and understanding of science concepts at the elementary school level. The IOC model encourages student interaction through a method of moving and discussing in groups, which can enhance communication, collaboration, and understanding of the material. The approach used is a literature study, analyzing previous research findings related to the application of the IOC model in learning. The analysis results indicate that the application of the IOC model is effective in improving students' social skills, such as communication, teamwork, and sharing understanding with classmates. This model also successfully enhances students' understanding of science concepts through engaging and collaborative discussion activities. However, the IOC model faces challenges such as time management and limitations of classroom facilities, which may impact its implementation. Therefore, proper planning, teacher training, and the provision of supporting resources and facilities are essential for the success of this model. Overall, the implementation of the Inside-Outside Circle learning model holds significant potential to improve the quality of education at the elementary school level, particularly in developing social skills and understanding science concepts, with special attention to the practical aspects that need to be adapted in the field.

INTRODUCTION

Education is an essential aspect in shaping a quality generation, both in terms of academic skills and social skills. Education is a key factor in the progress of a nation. According to Sanatria (2019), education is the "backbone" of a country's progress, emphasizing that the quality of education greatly influences the quality of national development. The better the educational system implemented, the greater the opportunity for a country to develop positively. Education plays a fundamental role as the main pillar that influences the entire social, economic, and cultural development. Countries with high-quality education tend to have excellent human resources. This opens up greater opportunities for such countries to achieve better progress. In contrast, poor education quality often becomes a major obstacle in development, creating social inequality that worsens the situation.

Recognizing the importance of education for national progress, the Indonesian government has made various efforts to improve the quality of education. According to Coroners (2020), the Ministry

of Education and Culture (Kemendikbud) has undertaken groundbreaking policies to improve more equitable and quality access to education, in line with UNESCO's Education for All (EFA) program. The implementation of the National Examination (UN) organized by Kemendikbud, as well as the curriculum changes from the 1994 Curriculum to the Competency-Based Curriculum (KBK) and further to the School-Level Education Curriculum (KTSP), demonstrates significant efforts made for improving educational quality.

However, despite the implementation of these policies, the reality on the ground shows that the quality of education in Indonesia is still not optimal. Improvements and efforts to enhance education quality are still needed to support national development and to compete with other countries in the era of globalization. Mind (2020), in the UNESCO Education For All (EFA) Global Monitoring Report 2019: The Hidden Crisis, noted that Indonesia's Education Development Index (EDI) in 2017 was recorded at 0.924, placing Indonesia at 70th position out of 134 countries analyzed. This data indicates that despite progress, Indonesia still faces significant challenges in improving education quality, and efforts to improve the overall education system must continue. Quality education is the key to producing competent human resources. This will drive the development process and promote progress in various life sectors. Therefore, it is crucial for all parties involved in the education system to collaborate in improving education quality to ensure a better future for the nation.

Various factors can contribute to the low quality of education in Indonesia, one of which is the insufficient quality of education at various levels, particularly at the Basic and Secondary Education levels (Dikdasmen) (Widodo, 2019). This issue arises not only from the students' side but also from aspects such as educators, infrastructure, curriculum, and other educational support factors (Widodo, 2019). To improve the quality of education, attention is needed for various important components, including teacher quality, the availability of learning-supporting facilities and infrastructure, effective learning media, a relevant curriculum, proper evaluation systems, and a conducive learning environment.

The role of teachers is crucial in improving the quality of learning. As facilitators, teachers are expected to create innovative learning activities that are tailored to the needs and abilities of students. To achieve innovative learning, teachers need to explore and develop teaching strategies that align with the applied curriculum and the conditions of students on the ground. This shows that learning is essentially a communication process that involves conveying information or messages from the instructor (teacher) to the students (Tegeh, 2019). Teachers must be able to present the concepts of learning material clearly so that the message is well received by students. On the other hand, students play the role of receivers of the concepts, and if the message is not delivered correctly, a misunderstanding of the material may occur.

There are two key factors teachers must consider to avoid conceptual misunderstandings. The first is the method used in delivering the lessons. The teaching method should motivate students, increase their engagement, reduce boredom in learning, and create an enjoyable learning atmosphere. In this way, the concepts of the material can be understood well and remembered for the long term. The second is the use of appropriate learning media. Good media can enhance student motivation and help them accept and discover new concepts. Therefore, the success in improving learning quality greatly depends on the use of effective teaching methods and media, which are suitable for the characteristics of the students.

Overall, improving the quality of education requires a comprehensive approach, ranging from improving teacher competencies to enhancing educational infrastructure. These strategic steps will have a positive impact in creating higher quality education that is more relevant to the needs of modern times. In elementary schools, learning Science (IPA) plays a vital role in introducing basic scientific concepts and shaping scientific thinking in students. However, in practice, science learning often focuses solely on the transfer of knowledge from teacher to student without involving optimal interaction and student engagement. This results in a low understanding of science concepts and limited development of students' social skills (Hidayat & Wahyuni, 2019). To address this issue, a more effective learning approach is required, one of which is the application of cooperative learning models. Cooperative learning models are known to increase student involvement in the learning process. One interesting and effective type of cooperative learning is the Inside-Outside Circle (IOC). This model emphasizes

student interaction through forming inner and outer circles where students share information and discuss with their peers in a collaborative learning environment (Widodo et al., 2020).

The Inside-Outside Circle cooperative learning model is believed to improve social skills, such as communication, teamwork, and respecting others' opinions (Pratiwi, 2019). Furthermore, this model also has the potential to enhance students' understanding of science concepts, as students are given the opportunity to interact, ask questions, and actively explain the concepts they are learning. This process helps students build a better understanding through repeated discussions and exploration of concepts (Supriatna & Kurniawati, 2021). This study aims to test the effectiveness of the Inside-Outside Circle cooperative learning model in improving students' social skills and understanding of science concepts in elementary schools. By understanding the effectiveness of this model, it is hoped that teachers can apply a more innovative and enjoyable approach in science learning, making the learning process more meaningful for students.

RESEARCH METHODS

This research uses a literature review approach with the aim of analyzing the effectiveness of implementing the Inside-Outside Circle cooperative learning model on social skills and science (IPA) concept comprehension at the elementary school level. A literature review approach was chosen because it allows the researcher to examine previous studies, identify key findings, and map various theories related to the topic being studied. Therefore, this approach will provide a more holistic view of how the learning model has been applied in different educational contexts and provide insights into the benefits and challenges that may be encountered during its implementation.

In this literature review, the researcher refers to a number of previous studies to enrich the understanding of the Inside-Outside Circle cooperative learning model. One example of a relevant study is by Lestari et al. (2021), who employed a quasi-experimental research design. This approach was chosen due to limitations in fully controlling or manipulating all relevant variables. The researchers were unable to control all the variables that may affect the dependent variables, but they could control certain specific variables under investigation. The quasi-experimental method can be applied when the research is conducted in a more natural setting, such as in schools where full control over subject groups is not possible. The primary focus of the research was to evaluate the effectiveness of a specific learning model in enhancing students' social skills and understanding of science concepts without strict experimental control.

Through this literature analysis, this study also aims to synthesize and compare the results of this study with other research that has similar objectives. This is done to explore the diverse outcomes and challenges that may arise in applying the Inside-Outside Circle learning model at the elementary school level. The diversity of results from existing studies provides a deeper understanding of the strengths and weaknesses of the model in fostering active social interactions and in deepening understanding of science lesson content.

RESULTS AND DISCUSSION

Based on the results of the literature review conducted on the implementation of the Inside-Outside Circle (IOC) cooperative learning model in improving social skills and science concept understanding in elementary schools, several key findings were identified that support the effectiveness of this model. The Inside-Outside Circle learning model is a cooperative method that involves students in structured discussion activities. This model involves two groups: the "inside" group, which stays in position, and the "outside" group, which moves and alternates in discussing with the "inside" group. Research indicates that this model is effective in enhancing student interaction, particularly in group discussions that involve social aspects and conceptual understanding. By using IOC, students can actively learn with their classmates, deepen their understanding of lesson content, and develop communication and collaboration skills.

The Inside-Outside Circle method has been shown to foster a sense of engagement and active participation among students. It provides them with opportunities to articulate their thoughts, express opinions, and challenge their understanding in a safe and dynamic environment. The structure of the activity, which includes rotation between the two groups, allows students to interact with a variety of peers and exposes them to multiple perspectives. This dynamic exchange of ideas leads to an enriched

understanding of both the content and the viewpoints of others, creating a more comprehensive learning experience.

Several studies, including the one by Lestari et al. (2021), show that the implementation of the IOC model can improve students' social skills. These social skills include the ability to work in teams, speak confidently, and listen to and appreciate others' opinions. In the context of elementary education, this plays a crucial role in developing the interpersonal competencies necessary in daily life, both inside and outside the classroom. Factors contributing to the success of this model, as found in Lestari et al.'s study, include a student-centered learning focus where students are given more opportunities to communicate with group partners and with students from other groups. In the experimental group, students shared knowledge and corrected their mistakes through hands-on experience in group discussions. This dynamic learning environment fosters stronger relationships between students, encourages active participation, and promotes a collaborative spirit. Students become more willing to contribute their ideas and engage with their peers' perspectives, which enhances mutual respect. Lestari et al. (2021) highlight that through regular interaction in the IOC model, students not only strengthen their academic understanding but also develop critical social skills such as empathy and conflict resolution. These interactions help students build confidence in their communication skills, particularly when speaking in front of peers or engaging in problem-solving activities in groups.

Social skills are a vital component of student development that must be nurtured from an early age. The IOC model emphasizes cooperative learning, offering students the opportunity to interact, share opinions, and learn to work together. The literature review shows that the Inside-Outside Circle encourages students to engage more actively in discussions, not only in expressing opinions but also in listening and providing feedback to their classmates. Research by Siregar et al. (2019) indicates that the IOC model can improve students' self-confidence, public speaking skills, and the ability to appreciate others' opinions in group learning contexts. These skills foster an environment of mutual respect, active listening, and collaboration. Furthermore, as students practice these social skills regularly, they begin to internalize and apply them in real-life situations, helping them navigate various social settings outside the classroom. Consequently, students develop essential interpersonal skills, such as conflict resolution, negotiation, and empathy. These skills will be crucial for their future success in both academic and professional environments. Therefore, the social skills developed through this learning model have long-lasting positive effects in students' lives, extending beyond the classroom and enriching their personal and professional relationships.

In addition to social skills, this study found that the IOC model also has a significant impact on students' understanding of science concepts (IPA) at the elementary school level. Understanding IPA concepts often presents a challenge for many students, as these concepts require logical reasoning and deep comprehension. The literature review shows that the IOC model, with its alternating discussion format, facilitates students' understanding and absorption of science concepts in a more enjoyable and active way. Ardianto (2019) found that students' concept comprehension improved when they were given the opportunity to explain material to each other in groups. This process enhances their memory and clarifies their understanding of concepts that were previously difficult to grasp. Fitriana et al. (2020) also noted that the IOC model facilitates students in visualizing IPA concepts through continuous discussion and Q&A. This supports students' efforts to understand the relationship between theory and application in real life. Thus, the IOC model proves to be effective in improving students' conceptual understanding in science subjects.

Despite the many benefits derived from the implementation of the Inside-Outside Circle model, there are some limitations and challenges faced by teachers in the field. One of the main challenges is managing the time for IOC activities, as the model involves various rotation sessions, which require sufficient time to ensure that every student can interact maximally. Research by Sahputra (2018) recommends that teachers plan carefully and manage time effectively so that students can participate in every stage of learning productively. Additionally, this model requires a relatively spacious classroom so that each group can move freely. Physical facility limitations in some schools might hinder the optimal implementation of this learning model. Therefore, adapting classroom space and flexible seating arrangements are essential to support the smooth execution of IOC-based learning.

Another supportive factor is the teacher's role as a facilitator, guiding students to collaborate in finding solutions to given problems and integrating prior knowledge into broader discussions. The

teacher's guidance in fostering an environment where students are encouraged to work together helps reinforce the collaborative aspect of learning, ensuring that all students are actively participating and developing their critical thinking skills. By encouraging students to build on each other's ideas and find collective solutions, the teacher plays an essential role in facilitating deeper learning experiences. Inter-student discussions also accelerate the mastery of new concepts, as students are actively engaged in learning more profoundly. The opportunity for peer-to-peer teaching and dialogue helps students to solidify their understanding by explaining concepts in their own words, hearing different perspectives, and addressing any misunderstandings or confusion they may have. This process not only strengthens their conceptual understanding but also promotes metacognition, as students evaluate their own thought processes and gain a deeper insight into how they learn.

Based on the findings of this literature analysis, several important recommendations can be proposed to enhance the effectiveness of implementing the IOC model in elementary schools. First, teachers need to consider student characteristics when designing discussion activities to ensure that all students can participate actively. Second, training for teachers in the implementation of the IOC model should be provided so that teachers are more familiar with the proper techniques for implementation. Third, the use of technology or digital media can support the discussion activities to motivate students and make the learning more dynamic. Overall, the implementation of this cooperative learning model has shown positive impacts on improving speaking skills and concept comprehension, both in foreign language learning and other subjects like IPA. This success highlights that cooperative strategies, which encourage students to interact, discuss, and collaborate, can significantly improve the quality of learning.

CONCLUSION

Based on the results and discussions presented, it can be concluded that the application of the Inside-Outside Circle (IOC) cooperative learning model in elementary schools is effective in improving social skills and understanding of science concepts (IPA). This model encourages students to actively interact, discuss, and share their understanding of the concepts being studied, which in turn enhances their communication and collaboration skills. The interactions that occur during these activities allow students to learn more from each other and develop a deeper, shared understanding of the material being taught. The application of this technique also accelerates the process of knowledge internalization by students, as they are not only passively listening but are actively involved in exchanging information. Additionally, the understanding of science concepts increases through the application of enjoyable discussions and a cooperative approach. With a method that encourages students to move and interact, learning becomes more engaging and reduces boredom in the teaching process. Students' social skills are also proven to develop, as they are trained to communicate, work together, and listen to and provide feedback during group activities. This fosters an attitude of mutual respect among students, which is crucial for their social development in the future.

Although effective, the IOC model faces challenges, such as time management, which often requires more time than expected due to student movement activities. Therefore, efficient time management is necessary. Additionally, adequate classroom facilities become a constraint, as limited space or large numbers of students can reduce the effectiveness of implementing this model. Successful application of IOC requires careful planning, teacher training, and the provision of supporting infrastructure, including appropriate learning media. Despite these challenges, the IOC model has significant potential to improve the quality of education in elementary schools, especially in the development of social skills and understanding of science concepts, as long as it is implemented with attention to field conditions.

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