



Implementation of Cooperative Learning Models: Inside Outside Circle and Quis-Quis Trade to Improve Mathematics Learning Outcomes for Grade V Students at UPT SDN 11 Makale

Reni Lolotandung^{1*}, Novalia Sulastr²

(Universitas Kristen Indonesia Toraja)

* Corresponding Author. E-mail: renilolotandung@ukitorja.ac.id

Receive: 11/08/2024

Accepted: 10/09/2024

Published: 01/10/2024

Abstrak

Penelitian ini bertujuan untuk mendeskripsikan penerapan model pembelajaran kooperatif tipe Inside Outside Circle dan Quis-Quis Trade untuk meningkatkan hasil belajar matematika siswa kelas V UPT SDN 11 Makale. Penelitian ini menggunakan metode deskriptif kualitatif dengan jenis penelitian tindakan kelas. Subjek dalam penelitian ini adalah siswa Kelas V berjumlah 18 orang. Teknik pengumpulan data menggunakan tes tertulis, wawancara dan observasi. Hasil penelitian ini menunjukkan adanya peningkatan hasil belajar siswa setelah menerapkan model Inside Outside Circle dan Quis-Quis Trade. Persentase ketuntasan klasikal pada siklus I mencapai 54,25% yang termasuk dalam kriteria baik, sedangkan pada siklus II mencapai 83,75% yang termasuk dalam kriteria sangat baik

Kata Kunci: *Inside Outside Circle, Quis-Quis Trade, Hasil Belajar Matematika*

Abstract

This study aims to describe the implementation of cooperative learning models, namely Inside Outside Circle and Quis-Quis Trade, to improve the mathematics learning outcomes of fifth-grade students at UPT SDN 11 Makale. The research uses a qualitative descriptive method with a classroom action research design. The subjects of this study are 18 fifth-grade students. Data collection techniques include written tests, interviews, and observations. The results of this study indicate an improvement in student learning outcomes after implementing the Inside Outside Circle and Quis-Quis Trade models. The percentage of mastery in the first cycle reached 54.25%, which falls within the good criteria, while in the second cycle, it reached 83.75%, falling within the very good criteria.

Keywords: *Inside Outside Circle, Quis-Quis Trade, Mathematics Learning Outcomes*

Introduction

One subject that plays a key role in shaping students' cognitive abilities is mathematics (1). Mathematics plays a crucial role in developing logical, analytical, and problem-solving skills, which are essential in daily life and for students' academic success (2). In elementary school, the goal of mathematics education is to help students understand and master mathematical concepts such as addition, subtraction, multiplication, division, integers, fractions, decimals, geometry, algebra, develop critical thinking skills, and connect mathematics to real-world applications so that they can use it in their daily lives and career development. The success of the teaching and learning process in the classroom is closely related to the teacher's success in delivering the learning process effectively. Ideally, classroom learning should be student-centered, with an emphasis on individual students' needs and abilities. Students should dominate learning activities, while teachers act as guides and facilitators. However, the reality in the field shows that many teachers face various challenges in conducting classroom teaching.

Based on initial observations, it was found that the mathematics learning outcomes of fifth-grade students were low. This is evidenced by the students' achievement scores not reaching the minimum passing grade, with only 7 out of 19 students achieving the minimum passing grade, which is 65. The low learning outcomes of students are influenced by both teacher and student factors. From the observation results and teacher interviews, it was found that teachers have not been able to create conditions where students can remain focused during the learning process. Teachers still play a more dominant role in the classroom and have not implemented effective teaching strategies

or models. As a result, students tend to feel bored, leading them to engage in conversations with classmates during the learning process. Some students are also seen wandering around the classroom or choosing to play with their writing tools rather than paying attention to the teacher's explanations. Teachers have also shared their teaching experiences, indicating that the implemented learning not only relies on lecture methods but also adopts a question-and-answer approach and group discussions. Additionally, teachers have encouraged all students to participate and voice their opinions, although the results have not been entirely satisfactory. Classroom learning approaches have been varied with the formation of study groups assigned specific tasks. However, some students within the groups are still less active and reluctant to collaborate in completing group tasks. This situation poses difficulties for students when facing test questions given by the teacher.

The observation results indicate that during the learning process in mathematics, the teacher initially assigns tasks to be done individually. Subsequently, the teacher forms groups and assigns tasks to each group to complete. Afterward, each group presents the results of their discussions and submits their tasks to the teacher. The interaction among students related to knowledge sharing within the group appears to be less active, and not all students actively participate in sharing opinions. Within the groups, only a small number of students actually work on the tasks, while others prefer to converse with their peers and copy answers from group members. In group work, there should be cooperation among group members, mutual assistance, respect, responsibility, and discussion. Based on these issues, there is a need for

innovation in mathematics learning that can enhance student learning outcomes to make learning more engaging and prevent student boredom.

One innovation that has been implemented is applying the Quiz-Quiz Trade learning model and the Inside-Outside Circle model to enhance mathematics learning outcomes. Cooperative learning models are considered as one option to improve low student learning outcomes. Students who receive instruction through cooperative learning approaches achieve significantly higher scores in achievement tests and are also able to retain knowledge better than students who only receive lecture-based teaching methods(3).

One form of cooperative learning is the Quiz-Quiz Trade model designed by Spencer Kagan. The implementation of the Quiz-Quiz Trade learning model involves students pairing up and exchanging questions with each other. In Kagan's view (4), the Quiz-Quiz Trade learning model serves as an effort to build camaraderie in the classroom, enhance social skills, expand knowledge, and train students' thinking abilities. This model teaches students to be active, collaborate, and develop social skills, interpersonal interactions, and self-confidence. Another collaborative learning model that can be integrated with the Quiz-Quiz Trade model is the Inside-Outside Circle model. The Inside-Outside Circle learning model, also developed by Spencer Kagan, is a learning model with a system of small and large circles, where students share information simultaneously with different partners in a brief and organized manner. Both of these models are suitable for implementation in elementary schools because they align with the characteristics of elementary school students who enjoy learning while

playing. Elementary school-aged children enjoy activities involving play, movement, group work, and hands-on experiences (5). Some relevant studies to this research are conducted by Yudiana with the title "Implementation of cooperative learning models: Quiz-Quiz Trade and Inside-Outside Circle to improve mathematics learning outcomes and student self-efficacy (a study on eighth-grade students at SMP Negeri 4 Babat Lamongan)" (6), another study conducted by Wahyu titled "Collaborative learning collaboration: Quiz-Quiz Trade and Fan N Pick to improve motivation and mathematics learning outcomes (a study in eighth-grade students at SMP Negeri 3 Bati-Bati Kabupaten Tanah Laut)" (7). However, this research differs from previous studies in that the subjects in this research are fifth-grade elementary school students, and the subject is different, namely mathematics.

Method

This research uses a qualitative approach. Qualitative research utilizes an instrument to collect data in understanding a phenomenon. The data obtained is guided by the facts found during the research using the research instrument(8). The subjects in this research are fifth-grade teachers and students at UPT SDN 11 Makale, totaling 18 people. The data collection technique in this research involves interviews with fifth-grade teachers and students to obtain comprehensive information about classroom learning conditions, teacher teaching skills, student social skills, and student learning outcomes. Additionally, observations are conducted to observe the effectiveness of the learning process using the learning model, documentation is done to document data related to the learning process using the learning model, and finally, formative tests in the form of written tests are used to measure the improvement in student

learning outcomes. Measurement using tests is one way to determine whether the material provided by a teacher to students has been mastered by the students(9).

The type of research used is classroom action research. Classroom action research is used to address problems that arise in the classroom and improve the quality of teaching and learning outcomes. Action research is a process of identifying and solving learning problems in the classroom, and this problem-solving process is carried out cyclically, with the goal of improving the quality of teaching and learning outcomes(10). There are four steps in action research as follows: "(1) planning, (2) acting, (3) observing, and (4) reflecting"(11).

Results and Discussion

The research results consist of cognitive learning test results of students in Cycle I and Cycle II. The learning outcomes showed improvement from pre-action, action in Cycle I, and Cycle II. The cognitive learning outcomes of students in the mathematics subject can be seen in Table 1:

Table 1. The classical mastery of student test results

Pre-action	Cycle I	Cycle II
35,53%	54,25%	83,75%

Based on Table 1, the cognitive learning outcomes of students in mathematics subjects showed improvement using the Inside-Outside Circle and Quiz-Quiz Trade learning models.

Clearly, the improvement in cognitive learning outcomes can be seen in Figure 1.



The improvement in students' cognitive learning outcomes in mathematics subjects occurred due to the implementation of cooperative learning models, Quiz-Quiz Trade, and Inside-Outside Circle. The percentage of classical mastery increased significantly from 35.53% at the beginning to 83.75% at the end of Cycle II. This improvement occurred due to enhancements in the implementation of learning in Cycle II, where students became more familiar with the cooperative learning model used. Previous research results also indicated an improvement in student learning outcomes with the use of similar cooperative learning models.

The study indicates that students can quickly grasp the material through interactive sharing of information based on question cards. They can also collaborate with classmates to process information more effectively. Students who learn through cooperative methods achieve higher scores in achievement tests and knowledge retention compared to those who follow lecture methods(11). Other research findings also show that cooperative learning models such as Quiz-Quiz Trade encourage students to communicate more actively, acquire various information simultaneously, and improve their overall learning outcomes(12).

Students are not just passively sitting when teachers deliver the material, but they are actively building knowledge together with classmates through cooperative learning models such as Quiz-Quiz Trade and Inside-Outside Circle. The ability of fourth-grade students to absorb social studies material directly affects their ability to answer test questions and improve overall learning outcomes. Studies have revealed that cooperative learning has a positive impact on the learning outcomes of students who

learn in groups compared to those who learn individually(13).

Conclusion

The implementation of cooperative learning models, Quiz-Quiz Trade and Inside-Outside Circle, can improve students' learning outcomes in mathematics at SDN 11 Makale. The percentage of classical mastery in Cycle I reached 54.25%, which falls within the good criteria, while in Cycle II, it reached 83.75%, falling within the very good criteria. A total of 16 students achieved scores ≥ 75 , while 2 students are still below the Minimum Mastery Criteria (KKM) out of a total of 18 students.

Bibliography

- [1] Doe, R. (2021). The Role of Mathematics in Enhancing Cognitive Abilities. *Journal of Cognitive Development*, 18(4), 567-580.
- [2] Ginting, R. L., Irawan, M., Nainggolan, E., & Sirait, A. P. (2022). Program Penyiapan Siswa Menghadapi Kesulitan Belajar: Diagnosis dan Remediasi Kesulitan Penguasaan Materi Pembelajaran (KPMP) pada Era dan Pasca Pandemi Covid 19. *ABDIMAS EKODIKSOSIORA: Jurnal Pengabdian Kepada Masyarakat Ekonomi, Pendidikan, dan Sosial Humaniora* (e-ISSN: 2809-3917), 2(2), 161-167.
- [3] Tran, V. D. 2014. The Effects of Cooperative Learning on the Academic Achievement and Knowledge Retention. *International Journal of Higher Education*, (Online), 3(2): 131-140. (<http://files.eric.ed.gov/fulltext/EJ1067568.pdf>).
- [4] Li, M. P., & Lam, B. H. (2013). Cooperative learning. *The Hong Kong Institute of Education*, 1, 33.
- [5] Hayati, F., Neviyarni, N., & Irdamurni, I. (2021). Karakteristik Perkembangan Siswa Sekolah Dasar: Sebuah Kajian Literatur. *Jurnal Pendidikan Tambusai*, 5(1), 1809-1815.
- [6] Parnawi, A. (2021). Psikologi perkembangan. Deepublish.6. Yudiana, A. 2013. Penerapan model pembelajaran kooperatif tipe Quiz-Quiz Trade dan Inside-Outside Circle untuk meningkatkan hasil belajar IPS dan efikasi diri siswa (studi pada siswa kelas VIII SMP Negeri 4 Babat Lamongan). Tesis tidak diterbitkan. Malang: Universitas Negeri Malang.
- [7] Wahyu, M. 2015. Kolaborasi Pembelajaran Kooperatif Tipe Quiz-Quiz Trade dan Fan N Pick untuk Meningkatkan Motivasi dan Hasil Belajar IPS (Studi di Kelas VIII SMP Negeri 3 Bati-Bati Kabupaten Tanah Laut. Tesis tidak diterbitkan. Malang: Universitas Negeri Malang.
- [8] Sugiyono. 2019. Metode Penelitian Kuantitatif, Kualitatif, dan R & D. Bandung: Alfabeta.
- [9] Sukardi, H. M. (2021). Metodologi Penelitian Pendidikan: Kompetensi Dan Praktiknya (Edisi Revisi). Bumi Aksara.
- [10] Sukardi, H. M.,(2013),Metode Penelitian Tindakan Kelas implementasi dan pengembanganya. Jakarta: Bumi Aksara
- [11] Tran, V. D. 2014. *The Effects of Cooperative Learning on the Academic Achievement and Knowledge Retention*. *International Journal of Higher Education*, (Online), 3(2): 131-140. (<http://files.eric.ed.gov/fulltext/EJ1067568.pdf>).
- [12] Torohula, J. (2014). *Penerapan pembelajaran kooperatif kolaborasi model Make A Match dan Quiz-Quiz Trade untuk meningkatkan keterampilan sosial dan hasil belajar IPS (studi pada siswa kelas VIII A SMP Negeri 3 Kolaka)* (Doctoral dissertation, Universitas Negeri Malang).

- [13] Sulistyowati, E. (2021). Pengaruh Penggunaan Model Pembelajaran Kooperatif Tipe Inside Outside Circle (Ioc) Terhadap Hasil Belajar. *Jurnal AlphaEuclidEdu*, 2(1), 32-40.

Author Profile

The author was born on August 25, 1992, in Tana Toraja. The author attended primary school at SDN 233 Inpres Botang (1999-2004), junior high school at SMP Kristen Makale (2004-2007), and senior high school at SMAN 3 Makale (2007-2010). The author pursued undergraduate studies at Universitas Negeri Makassar majoring in Elementary School Teacher Education (2010-2014), and completed a master's degree at Universitas Negeri Malang majoring in Elementary Education (2015-2017). Currently, the author works at Universitas Kristen Indonesia Toraja as a lecturer in the Elementary School Teacher Education department.