



Improving Students' Motivation in Economics through the "Make a Match" Cooperative Learning Model: A Classroom Action Research Study

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Abstract: Learning motivation is a crucial aspect of the educational context. It drives students' actions toward learning goals and determines their level of learning achievement. The aim of this study is to improve learning motivation in economics learning through the application of the "Make a Match" cooperative learning model. This study is a classroom action research. The research was conducted in class XE4 at State Senior High School 6 Yogyakarta. A total of 36 students participated in the study. Research procedure were carried out in two action cycles based on the model by Kemmis et al. (2014), namely: planning, implementation of actions, observation, and evaluation and reflection. The data collection methods were observation and questionnaires. The data analysis techniques were qualitative and quantitative. The results of this study indicate that the implementation of the "Make a Match" cooperative learning model is effective in improving students' learning motivation in economics learning. Students' learning motivation before the implementation of the "Make a Match" cooperative learning model was categorized as low (mean score: 54.78); after the model was implemented, an increase was observed: in Cycle I, learning motivation was categorized as high (mean score: 76.19), and in Cycle II, learning motivation was categorized as high (mean score: 83.50). The practical implication of this research is that economics teachers need to continuously strive to improve student motivation during classroom economics instruction. Teachers have a wide range of options available to them; one such approach is the "Make a Match" type of cooperative learning.

Keywords: Classroom Action Research, Cooperative Learning, Student Learning Motivation

1. Introduction

Economics learning outcomes in Indonesian high schools are classified into two phases: Phase E and Phase F. One of the learning outcomes in Phase E is that students are able to understand money as a resource that can be utilized and managed to meet current needs and plan for future needs through financial planning based on an understanding of the various benefits of banking and non-banking financial products (Indonesian Agency for Educational Standards, Curriculum, and Assessment, 2022). The learning material on payment systems and payment instruments is one component of Phase E. Through this material, students are expected to understand payment systems, the role of Bank Indonesia in payment systems, the operation of payment systems, the variety and types of payment instruments, the evolution of payment instruments, and the role of Bank Indonesia in payment systems.

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The researchers' observations indicate that classroom instruction on payment systems and payment instruments is not very engaging. Teachers conduct lessons by combining two methods: lectures and question-and-answer sessions. The teachers' rationale is that the subject matter is considered straightforward and the time available for classroom instruction is quite limited. The teachers' rationale is not problematic as long as instruction is conducted effectively. However, the teachers' choice of instructional methods results in the economics learning process being less aligned with the essence of learning and instruction, namely that students consciously and actively engage in learning through experience, practice, and interaction with their environment (Sudiarja et al., 2006). Students are the primary agents of learning, possessing the potential, creativity, and identity to learn independently, while teachers serve as facilitators of the learning process carried out by their students (Lie, 2002).

Uncreative teaching often leads to students losing interest in learning in the classroom. Their learning motivation becomes low. Based on the researcher's observations, the students' classroom activities were counterproductive; for instance, they showed no willingness to ask critical questions about the subject matter or to answer questions posed by the teacher, and they engaged in conversations completely unrelated to the lesson topic, among other behaviors. Such learning conditions naturally hinder the achievement of the learning objectives for economics. Based on the teacher's records, students' learning outcomes for this subject also failed to meet the minimum passing threshold of 75%

Based on the evaluations by teachers and researchers, economics instruction is indeed perceived as ineffective. The economics learning process is perceived as ineffective in fostering students' learning motivation in the classroom. This situation is certainly not ideal, and alternative solutions must be sought. For this reason, the researchers and teachers agreed to improve the quality of instruction through classroom action research (CAR). The specific objective of this CAR is to increase students' learning motivation during economics lessons in the classroom. The learning process was shifted from its originally conventional nature toward a cooperative learning approach. This initiative for change must begin with the teacher, as the teacher is ultimately the one steering classroom learning toward a more positive direction (Lie, 2002).

There are many types of learning strategies that teachers can choose from. These learning strategies are viewed as ways to achieve learning objectives through effective processes that allow students to learn in accordance with their learning stages (Hattie & Donoghue, 2016). The learning strategies selected must, of course, take many factors into account, such as student characteristics, learning materials, available facilities, and so on. Among these various factors, teachers' deep understanding of learning objectives is the most important. Considering these factors, teachers and researchers agreed to improve the quality of learning by implementing the "Make a Match" cooperative learning model. This learning model is considered appropriate for teachers to apply in the classroom. A teacher's strong confidence in the chosen learning strategy is a crucial asset for creating a better learning environment (Yidana & Arthur, 2023).

The "Make a Match" cooperative learning model is a relatively simple cooperative learning model. However, if this learning model is implemented effectively, it will foster student engagement in the classroom (participation in learning, cooperation, and responsibility) and rapidly reinforce conceptual understanding through fun games (Curran, 1990). In this type of learning, students in groups can work together to find matching pairs of question cards and answer cards. Findings from previous studies, such as Sartika et al. (2024), Aziz et al. (2023), Murdaningrum (2021), and Istiqomah & Rahmatullah (2025), indicate that the implementation of the "Make a Match" cooperative learning model improves students'

learning motivation. However, contrasting research findings, such as those by Muttaqin (2017), suggest that the implementation of cooperative learning has no significant effect on students' learning motivation. Contributing factors included students failing to pay attention to the teacher's explanations, a noisy classroom environment, and students neglecting to complete assigned tasks. In light of these findings, this study aims to improve the implementation of CAR by adhering to a clearer procedural framework, specifically that of Kemmis et al. (2014), utilizing more precise criteria for measuring learning motivation, and enhancing classroom management throughout the research process.

It is important to create a pleasant learning atmosphere, especially for economics lessons, which students often perceive as unchallenging and uninteresting. Given that the target audience consists of upper-secondary students, the researcher and teachers modified the “Make a Match” cooperative learning model to better align the instruction with the students’ characteristics. This CAR aims to answer the research question of whether the implementation of the "Make a Match" cooperative learning model is effective in increasing students' learning motivation in economics.

2. Literature Review

2.1 Cooperative Learning

Cooperative learning is a structured classroom teaching technique in which learners work together in groups to collectively achieve specific learning objectives (Felder & Brent, 2007; Gillies, 2016). These learning objectives include both social and academic goals (Johnson & Johnson, 2002; Slavin, 1989; Slavin, 2014). Previous studies have shown that cooperative learning is viewed as a more effective learning model compared to other models that tend to emphasize competitive or individualistic aspects (Johnson et al., 1981; Slavin, 1989). The implementation of cooperative learning in the classroom is perceived to make learning more in-depth while simultaneously enhancing students’ social skills (Slavin, 2014).

Cooperative learning is not the same as group learning in general. Johnson et al. (1998) state that learning is considered cooperative if it meets the following elements:

- the goal is to be achieved together by all group members with equal responsibility, both in failure and success (positive interdependence).
- each group member is responsible for their respective parts of the work (individual accountability).
- each member interacts positively with one another while working on group assignments, giving each other directions, affirming each other, and encouraging each other (promoting interaction).
- each member develops each other's soft skills, such as communication, conflict management, decision making, and others, while working in groups (use of appropriate collaborative skills);
- each member conducts open evaluation and follow-up in working together for better results (group processing).

There are various types of cooperative learning models. One of them is the “Make a Match” model. This cooperative learning model was developed by Curran (1990). The procedure for this learning model is as follows: the teacher prepares a set of question cards and answer cards related to the learning concepts; each student receives a set of question cards and answer cards; each student identifies the matching pair for the cards they hold; when another student in the group presents a question card, the other students

search for the correct matching answer card; each group of students that successfully matches the cards correctly within the allotted time limit is awarded points; after one round of the game ends, the cards are shuffled again so that each student receives different cards from the previous round; and so on. Essentially, in this type of learning, students are asked to find the matching pair for the question/answer cards they hold. Through this type of learning, it is hoped that students will cooperate with one another, communicate with one another, remind one another of what has been learned, and even delve deeper into the material (Lie, 2002). This learning method is certainly enjoyable for the students.

Implementing cooperative learning in the classroom is not always easy; in practice, its success depends heavily on both teachers and students. Empirical findings by Gufron and Ermawati (2026), for instance, highlight common limitations regarding teachers: lesson preparation is time-consuming, teachers often make mistakes during initial implementation, they must actively foster student engagement, and they frequently struggle with time constraints due to poor time management. On the student side, challenges include difficulties collaborating with group members, persistent inter-student dependency (where academically weaker students rely on stronger ones), and a lack of preparation or effort to understand the material. In other words, implementing cooperative learning demands managerial competence across various areas, including classroom management, from teachers. Nevertheless, these managerial skills generally develop over the course of a teacher's career. Through continuous evaluation and reflection, teachers become increasingly capable of bridging the gap between the ideal approach and the actual realities of classroom practice (Howard-Jones, 2024).

2.2 Learning Motivation

There are various theories of motivation within the educational context (Urhahne & Wijnia, 2023), one of which is self-determination theory. Self-determination theory is rooted in the concept of intrinsic motivation (Ryan & Deci, 2019). Individual autonomy, competence, and social relatedness are viewed as fundamental psychological needs (Conesa et al., 2022; Deci & Ryan, 1985; Ryan & Deci, 2020). According to self-determination theory, an individual's behavior is driven by intrinsic motivation (Deci & Ryan, 1985). When an activity is perceived as interesting, enjoyable, or satisfying, the individual is motivated to engage in that action (Urhahne & Wijnia, 2023). Extrinsic factors—such as regulation by teachers or parents—can either undermine or strengthen an individual's intrinsic motivation. Only when feedback or regulation aligns with an individual's aspirations (e.g., interests, values, or improved relationships) will such extrinsic factors reinforce their intrinsic motivation (Deci et al., 1999).

Every learner needs to possess learning motivation. Students' learning motivation can be either positive or negative (Lucas et al., 1990). Positive learning motivation serves as a source of energy that supports students in achieving greater academic success (Wigfield et al., 2016; Steinmayr et al., 2019). This positive source of motivation is constructed from various factors, both internal and external to the student (Skollingsberg, 2015). These various factors shape the internal processes within an individual that guide their actions toward achieving better learning outcomes (Wiseman & Hunt, 2001).

The learning stages of each student vary, but generally, there is a tendency for the learning behaviors of younger students to be driven by external factors. One such external factor is the learning strategies implemented by teachers. Colak's (2015) findings, for example, indicate that the learning model chosen

by teachers impacts the learning process they facilitate, one of which is that students become more motivated to learn. Student learning motivation is evident in their participation during classroom learning or in more positive emotional regulation; conversely, students with low learning motivation generally tend to be passive and exhibit weak emotional regulation, which results in low academic achievement (Urhahne, 2015).

Cooperative learning offers a variety of benefits. Numerous research findings indicate that cooperative learning generally enhances students' learning motivation. This is particularly true for cooperative learning that incorporates game-based activities (Sonthara and Vanna, 2009). Through cooperative learning, more students have the opportunity to experience joy during classroom instruction and achieve academic success. Forming student groups into teams comprising both high- and low-achieving students fosters collaboration among students, thereby distributing the likelihood of success more evenly. This contrasts with classroom learning that emphasizes individual competition, where high-achieving students tend to pursue high learning outcomes, while low-achieving students are unable to compete with them. This is often the reason why, in cooperative learning, high-achieving students generally feel they do not receive the learning experience they had hoped for (Sonthara and Vanna, 2009).

3. Methods

3.1 Research Model

This study is a classroom action research (CAR). The research approach is a combination of quantitative and qualitative methods. The qualitative approach aims to describe the "Make a Match" cooperative learning process in economics lessons covering payment systems and payment instruments in the classroom. Meanwhile, the quantitative approach is intended to present a quantitative description of the research data and the effectiveness of applying the "Make a Match" learning model in improving student learning motivation before and after the CAR was conducted. This CAR was conducted in Class XE4 at State Senior High School 6 in Yogyakarta. A total of 36 students participated in the study. The students were between 15 and 16 years old.

3.2 Research Procedure

This CAR procedure was conducted in two action cycles. Each action cycle followed the learning stages outlined in the model by Kemmis et al. (2014), namely: planning, implementation, observation, and evaluation and reflection.

1. Planning stage. The researcher developed an action plan for the learning process. The action plan was based on an analysis of the researcher's observations and discussions with the economics teacher. The researcher and teacher designed the lesson implementation plan, the necessary learning materials, the game mechanics and rules, and group formation. The lesson implementation plan followed the general framework established by government regulations. The "Make a Match" game in this study is played much like a standard card game, except the cards are modified into question cards and answer cards. To ensure the "Make a Match" game runs smoothly and orderly, the researcher and the teacher establish game mechanisms and rules. Group formation is conducted by

considering the academic heterogeneity of each group member. Thus, academic ability within each group is homogeneous;

2. Implementation of the intervention. In this stage, the previously developed lesson plan is implemented in the classroom learning process. The learning process includes opening activities, core activities, and closing activities. The teacher's role is to conduct the lesson, and the researcher's role is to facilitate the implementation of the lesson to ensure it proceeds as planned;
3. Observation. The observation is conducted by the researcher. The subjects of observation are the teacher's activities and the students' activities during the lesson. The researcher records the activities during the classroom action implementation in an observation sheet;
4. Evaluation and reflection. Both activities are carried out by the teacher and students at the end of the lesson. Evaluation is intended to obtain feedback on the achievement of learning objectives and the strengths and weaknesses of the learning process. Meanwhile, reflection is focused on obtaining information about the students' inner experiences regarding what they have learned.

3.3 Data Collection

The data collection methods used in this CAR were observation and a questionnaire. The researcher used an observation sheet to record various information gathered during the learning process, including both teacher and student activities in the classroom. The questionnaire was used to collect data on student learning motivation. This research questionnaire was adapted from Dayel et al. (2018). There are six indicators for measuring motivation: goal orientation, both intrinsic and extrinsic; student assessment of tasks; confidence in learning; self-efficacy in learning and learning performance; and exam anxiety. The questionnaire contains 20 question items, each rated on a five-point Likert scale. Before being used for data collection, the learning motivation research instrument was tested for validity and reliability. The validity and reliability tests of the learning motivation research instrument were conducted on students in class XE8 at State Senior High School 6 Yogyakarta, a class different from the one where the CAR was implemented. The number of research respondents involved was 33 students. Validity and reliability testing was conducted using IBM SPSS 25 Statistics. The test results indicate that the corrected item-total correlation values for all questionnaire items exceed the critical r -value of 0.344, meaning that all items are considered valid. The Cronbach's Alpha value was 0.893, indicating that the learning motivation research instrument has very high reliability.

3.4 Data Analysis Technique

Data analysis techniques include qualitative and quantitative methods. Qualitative data were obtained from observations of teachers and students during the research process. The stages of qualitative data analysis, adapted from Miles et al. (2014), involve data reduction, data presentation, and drawing conclusions. Meanwhile, quantitative analysis techniques are intended to describe the findings regarding learning motivation before and after the study and to compare them to provide an overview of the research findings. The quantitative data from the findings are presented as percentages based on the Normative Reference Guidelines Type II. This assessment is based on a minimum passing score of 56% of the total score. This figure is considered moderate and reasonable for students to be assessed in the sufficient category.

Quantitative analysis techniques are also intended to compare learning motivation before the CAR, Cycle I, and Cycle II in order to determine the effectiveness of the classroom action research in improving students' learning motivation.

4. Results and Discussion

4.1 Description of Implementation of Classroom Action Research (CAR)

1. First cycle

- a. Action planning stage. Before conducting CAR, researchers and teachers ensure that the learning design can be implemented well in the classroom. The learning design is presented in a learning module. The learning module contains information about the identity of the learning, the facilities and infrastructure to be used, the learning models and methods to be applied, the core components (learning objectives, expected meaningful understanding, and provoking questions), and learning evaluation and reflection activities. In addition to the learning module, the researcher and teacher formed heterogeneous groups of students.
- b. Action implementation phase. In the first cycle of classroom interventions, the teacher implemented the lesson plan that the researcher had developed together with the teacher. The learning activities began with an introductory activity. The teacher conducted a learning orientation (activities included preparing the classroom to create a more conducive environment, such as ensuring classroom cleanliness, preparing media and necessary learning materials, taking attendance, praying, and greeting students), conducted an apersepsi (the teacher asked students about the previous lesson's material, posed a lead-in question, provided a brief overview of the lesson's material, linked the lesson on payment methods to the previous lesson's material, and communicated the learning objectives); and provide motivation regarding the importance of learning about payment methods.

Before beginning the main learning activity, the teacher distributed a questionnaire via Google Forms to assess the students' level of motivation at the start of the lesson. After completing this activity, the teacher played a video about payment methods, available for free on the Bank Indonesia channel. The teacher asked several students to summarize the video, and the teacher provided feedback and praise for the students' responses. The teacher then briefly explained the material on payment methods using a PowerPoint presentation that had been prepared in advance. While explaining the material, the teacher interspersed the session with question-and-answer activities with the students. The teacher provides feedback and affirmation for each group's answer. Once the students finish their presentation, the teacher and students draw conclusions together.

The lesson continues with a game. This game is an application of the "Make a Match" cooperative learning model. The teacher distributes a set of question and answer cards—which the teacher has arranged in advance—to each group. Each set consists of 10 numbered question cards, and for each numbered question card, there are 2 corresponding answer cards. The procedure is as follows:
1) the teacher asks a representative from each group to pass the cards to their classmates in a

clockwise direction; 2) the teacher explains the game rules to the students as follows: a) each group takes out a question card according to the instructions. Example: "Please take out question card number 1 from the group table"; b) the teacher will blow the whistle once as a signal for other students in the group to take out the answer card relevant to the question card taken out by another student in their group; c) after 1 minute to solve the question, the teacher will blow the whistle twice as a signal that the question has been completed; d) each group collects the question and answer cards and places them in the designated area; 3) The teacher continues reading the next question until all questions have been completed (the teacher evaluates each group's work as the student groups work on the questions, and so on); 4) the teacher informs the class that the game is over; 5) the teacher and students discuss the completed questions and draw conclusions about the material that has been studied; 6) the teacher gives recognition to the group with the highest score and asks each group member to come to the front of the class to receive congratulations from the other groups. The teacher distributes evaluation and reflection sheets to the students.

- c. Observation phase. The researcher conducted observations while learning activities were taking place in the classroom. The researcher observed the activities carried out by the teacher and students during the lesson. The results of the observations in the first cycle regarding the teacher's activities showed that the teacher had made efforts to prepare students for the learning activities, conducted introductory activities in accordance with the lesson plan, and carried out the main learning activities and closing activities smoothly within the allotted time. However, there were some minor details the teacher needed to improve during the lesson, such as ensuring time allocation for each stage of the lesson was more precise. Classroom management also needed to be more effective. This was because some group members were still discussing among themselves in voices that disrupted other groups. The results of the student activity observations indicate improvements in student learning. Students have begun to learn effectively with peers from diverse backgrounds, adhere to classroom rules, demonstrate greater curiosity, are willing to ask questions when facing difficulties, participate more enthusiastically in lessons, better understand learning objectives, are willing to share their opinions, and collaborate in classroom learning. One aspect that still appears to need improvement in the learning process is that group members still tend to rely on other group members. This condition is an important note to be addressed in the second cycle.
 - d. Evaluation and reflection phase. The teacher invites all students to evaluate the lesson. Students are asked to write down their opinions about the economics lesson that took place in class. Reflection is conducted in a similar manner. Students are asked to write down their individual learning experiences on the reflection sheets distributed by the teacher.
2. Second cycle. The learning process in the second cycle followed the same steps as in the first cycle. The focus of the second cycle was to improve students' learning from the first cycle based on records of student evaluations, teacher evaluations, and the researcher's observations during the learning process in the first cycle. The student groups in the second cycle were the same as in the first cycle. The opening activity, the main activity, and the closing activity were conducted in a similar manner. The difference between the first and second cycles is that in the first cycle, the lesson focused on

payment instruments, while in the second cycle, the teacher continued with the learning material on payment systems. This second material was supported by educational videos available for free on the Bank Indonesia channel. The following presents a comparison of the learning processes in the first and second cycles.

4.2 Results

Table 1: Results of observations of student activity during cooperative learning

No	Description of student activities	Proportion of students in the class	
		Cycle I	Cycle II
1	Positive interdependence among group members	23 students (64%)	29 students (81%)
2	Individual accountability of each group member	22 students (61%)	27 students (75%)
3	Interaction while working on group assignments	24 students (67%)	31 students (86%)
4	Collaboration in working on group assignments	23 students (64%)	28 students (78%)
5	Group processing (open evaluation among group members)	20 students (56%)	25 students (69%)
Average		62%	78%

Table 1 illustrates the results of the researcher's observations of student activities in the classroom during the CAR. In general, there was an improvement in student engagement during classroom instruction, with the percentage of students positively engaged in cooperative learning increasing from 62% to 78%. The most notable change occurred in student interactions while working on group assignments (in Cycle I: 24 students out of 36; in Cycle II: 31 students out of 36). These interactions included discussions, a willingness to help one another understand the material (peer tutoring), sharing ideas for answers, and shared responsibility for the work's outcomes. Meanwhile, the smallest change was observed in group processing (in Cycle I: 20 students out of 36; in Cycle II: 25 students out of 36). This activity proceeded less smoothly due to students' hesitation to openly correct their peers within the same group. The reason for this was a concern that doing so would hurt the feelings of peers within the group, which would make the learning atmosphere within the group uncomfortable.

Table 2: Student evaluation results for cycle I and cycle II learning

No	Description	The most dominant student responses	Proportion of students in the class	
			Cycle I	Cycle II
1	What benefits have you gained from implementing the "Make a Match" cooperative learning method?	Practicing cooperation	24 students (67%)	28 students (78%)
		Creating a more enjoyable learning atmosphere	10 students (28%)	30 students (83%)
2	What successes have you achieved through the	Being able to work with group members	25 students (69%)	31 students (86%)

No	Description	The most dominant student responses	Proportion of students in the class	
			Cycle I	Cycle II
	implementation of the “Make a Match” cooperative learning method?	Being able to practice individual responsibility	7 students (19%)	24 students (67%)
3	What challenges have you encountered in implementing the “Make a Match” cooperative learning method?	Dependence on group members	19 students (53%)	11 students (31%)
		Hesitation to conduct open evaluations	9 students (25%)	7 students (19%)
4	What aspects of the “Make a Match” cooperative learning method still need to be improved?	Independent learning	16 students (44%)	15 students (42%)
		Learning time management	12 students (33%)	10 students (28%)

Table 2 shows the results of student evaluations during learning in Cycle I and Cycle II. In terms of learning benefits, students felt that cooperative learning had a positive impact. The most notable aspect reported by students was that cooperative learning created a more enjoyable learning atmosphere in the classroom (in Cycle I: 10 out of 36 students; in Cycle II: 30 out of 36 students). Students did not find the learning process boring. During lessons, they did not simply sit quietly and listen to the teacher, but actively discussed, exchanged ideas, and collaborated. In terms of learning success, the most notable aspect was that the approach increased individual responsibility in the classroom (in Cycle I: 7 out of 36 students; in Cycle II: 24 out of 36 students). In small groups, each member feels compelled to master the material, contribute actively, and help peers, so the group’s success is truly seen as dependent on individual learning. Therefore, if one member struggles to understand the material, other group members share the responsibility to assist them, ensuring the group’s collective learning goals are more successfully achieved. Obstacles during cooperative learning showed a decrease. The most notable decrease was in students’ dependence on their groupmates when completing group assignments (in Cycle I: 19 out of 36 students; in Cycle II: 11 out of 36 students). Given the need to achieve group success, the students felt that they needed to further improve their independence in learning.

Table 3: Student reflection results for cycle I and cycle II learning

No	Description	Proportion of students in the class (%)		
		Student responses	Cycle I	Cycle II
1	Do you enjoy participating in “Make a Match” cooperative learning activities?	Happy	25 students (69%)	32 students (89%)
		Not happy	11 students (31%)	4 students (11%)
2	Are you enthusiastic about participating in “Make a Match” cooperative learning activities?	Enthusiastic	28 students (78%)	32 students (89%)
		Not enthusiastic	8 students (22%)	4 students (11%)

No	Description (engagement, participation, group work, and discussion)	Proportion of students in the class (%)		
		Student responses	Cycle I	Cycle II
3	Are you interested in participating in future “Make a Match” cooperative learning activities similar to the ones you’ve participated in so far?	Interested	32 students (89%)	35 students (97%)
		Not interested	4 students (11%)	1 students (3%)

Table 3 describes the results of the students’ reflections following the CAR. The students reported that most of them were pleased with the implementation of the “Make a Match” cooperative learning method (32 out of 36 students); they felt more enthusiastic about learning (32 out of 36 students); and nearly all students (35 out of 36 students) expressed interest in participating in the “Make a Match” cooperative learning method in class.

Table 4: Statistical description of learning motivation based on Normative Reference Guidelines

Learning Motivation Interval	Pre-Research	Cycle I	Cycle II	Learning Motivation Category
20 - < 40	0 (0,00%)	0 (0,00%)	0 (0,00%)	Very low
40 – < 50	5 (13,89%)	0 (0,00%)	0 (0,00%)	Low
50 - < 70	31 (86,11%)	7 (19,44%)	0 (0,00%)	Moderate
70 - < 90	0 (0,00%)	29 (80,56%)	28 (77,78%)	High
90 - 100	0 (0,00%)	0 (0,00%)	8 (22,22%)	Very high
Number of students	36 (100%)	36 (100%)	36 (100%)	

Table 4 shows changes in students’ learning motivation before and after the implementation of the CAR. The learning motivation questionnaire consisted of 20 items, each rated on a 1–5 scale (lowest score: 20; highest score: 100). Before the CAR, students’ learning motivation was categorized as moderate (range: 50 – < 70; mean score: 54.78; standard deviation: 4,43). After the CAR, the results were as follows: in Cycle I, there was an increase in learning motivation. Learning motivation was categorized as high (range: 70 – < 90; mean: 76.19; standard deviation: 7,47); in Cycle II, learning motivation was categorized as high (range: 70 – < 90; mean: 83.50; standard deviation: 5,19). This indicates that there was an increase in learning motivation before and after the implementation of the CAR (Cycles I and II). In other words, the application of the effective cooperative learning model of the “Make a Match” type improved students’ learning motivation before and after the economics lessons.

Table 5: Tests of within-subjects effects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	16044,130	2	8022,065	1623,569	,000	,979
	Greenhouse-Geisser	16044,130	1,247	12862,048	1623,569	,000	,979
	Huynh-Feldt	16044,130	1,271	12621,211	1623,569	,000	,979
	Lower-bound	16044,130	1,000	16044,130	1623,569	,000	,979

Table 6: Pairwise Comparisons

(I) Time	(J) Time	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1 Pre-Research	2	-21,417*	,616	,000	-22,967	-19,867
	3	-28,722*	,248	,000	-29,345	-28,100
2 Cycle I	1	21,417*	,616	,000	19,867	22,967
	3	-7,306*	,618	,000	-8,860	-5,751
3 Cycle II	1	28,722*	,248	,000	28,100	29,345
	2	7,306*	,618	,000	5,751	8,860

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Table 5 presents the results of the difference test comparing the pre-intervention stage, Cycle I, and Cycle II. A repeated-measures ANOVA with Greenhouse-Geisser correction reveals a significant difference in mean learning motivation scores across these stages ($p < 0.05$). Meanwhile, Table 6 shows that the increase in mean learning motivation from the pre-research stage to Cycle I was significant ($p < 0.05$), the increase from the pre-research stage to Cycle II was significant ($p < 0.05$), and the increase from Cycle I to Cycle II was significant ($p < 0.05$). In other words, the implementation of the "Make a Match" cooperative learning model is effective in improving students' learning motivation in economics lessons.

4.3 Discussion

The "Make a Match" cooperative learning model transformed student activities during economics lessons in the classroom (Table 1). Previously, the economics teacher had never implemented cooperative learning. Economics lessons in the classroom were one-way, with the teacher playing a dominant role in the learning process. Through cooperative learning, students finally learned how to learn cooperatively with their peers. In the early stages of implementing cooperative learning, changes in learning methods did not appear to be fully successful. This was because the learning model applied in the classroom was

new to economics education; both the teacher and the students were learning. The changes that stood out from the first cycle to the second were: first, interactions among group members were positive as they worked on group tasks; second, students experienced that learning objectives could be achieved collaboratively with their peers. This process of mutual learning eventually began to foster a sense of community in the classroom while studying economics.

Based on the evaluation of students during the “Make a Match” cooperative learning activity, students felt they had greater opportunities to collaborate with one another. This environment encouraged them to share their opinions and feel that there were no barriers in their relationships. The classroom learning environment became more enjoyable for every student (Table 2). Cooperative learning was perceived as providing ample space for every student to collaborate. This collaboration does not mean eliminating the responsibility and independence of each group member within their group. This learning environment aligns with a key aspect of cooperative learning: fostering students’ responsibility in learning, motivating each student to learn better, and supporting one another to achieve better learning outcomes (Hsiung et al., 2014). Another positive change is the willingness of students to give and receive feedback from other group members. This is generally not easy, as changing one’s character typically takes a long time.

On the affective side, students also showed significant growth following cooperative learning. The economics learning atmosphere created in the classroom makes students feel happier, more enthusiastic about participating, and more interested in continuing cooperative learning (Table 3). Through cooperative learning, students perceive the economics learning environment in the classroom as far more interactive (with the teacher’s dominance diminishing), more supportive, and more dynamic. This is in line with Johnson & Johnson (1999); Van Ryzin & Roseth (2018), who state that the learning environment in cooperative learning is perceived as socially healthier - such as better interpersonal relationships and a willingness to cooperate - which will provide students with more positive energy to succeed in learning.

Implementing economics lessons through games makes students more enthusiastic about participating. Each student in the group must actively search for question cards that match their answer cards within the time limit set by the teacher. This aligns with the students' age group, as they prefer learning in a more engaging environment. They are required to discuss and collaborate with their groupmates without feeling the pressure often associated with previous, more one-way teaching methods. Students find this card-matching game engaging and enjoyable during class. Classroom activities become more lively and the learning atmosphere more enjoyable. Consequently, classroom learning is perceived more positively by students. As they learn, students appear to become increasingly motivated (Table 4). The findings of this study support self-determination theory. When an activity is perceived as interesting, engaging, or satisfying, individuals—in this case, students—are motivated to take action (Urhahne & Wijnia, 2023). Similarly, instructional management that aligns with the expectations of the individuals involved (the students) reinforces their learning motivation (Deci et al., 1999).

There is a growing awareness among students regarding their learning, an improved desire to learn, a sense of enjoyment during learning, a recognition of the benefits of studying economics, and receiving appreciation from others due to the changes in the students themselves as they learn. These affective conditions of students are crucial during learning because the learning environment for students becomes increasingly open. After all, students are the subjects of the learning process; that is, it is the students who

are learning, not their teachers. This learning condition is important because teachers themselves sometimes face teaching challenges that hinder students' learning outcomes (Hennessey & Dionigi, 2013). The results of this study provide empirical evidence that cooperative learning improves students' learning processes in the classroom (Çolak, 2015). Students' learning motivation improves, thereby increasing the likelihood of better learning outcomes (Urhahne, 2015).

5. Conclusion

The "Make a Match" cooperative learning model is one of many learning models that economics teachers can choose to improve student learning motivation. Researchers have ensured that the chosen learning model, adhering strictly to its syntax, utilizes a game format familiar to the students from their daily lives. Through games, students become more enthusiastic about learning and are willing to participate in economics learning. The most dominant findings in this study were that students felt more opportunities to interact positively with each other, were more able to collaborate in learning, and were more responsible both individually and as members of a group. The classroom atmosphere indicated a greater motivation to learn economics. Through the implementation of this cooperative learning model, this research provides a practical contribution to improving the quality of economics learning, particularly in terms of the learning methods applied by economics teachers in the classroom.

We recognize that this research still has limitations. Therefore, teachers who wish to implement it need to be more thorough and serious, such as regarding the game's mechanisms and rules and the preparation of other supporting tools. If deemed necessary, teachers can even conduct simulations before implementing the learning model. The researchers fully acknowledge that this study has limitations, primarily because the CAR was conducted in only one class and on a specific learning topic, namely payment systems and payment instruments. The research was also designed to solve a specific problem, namely improving learning motivation in a particular class, and was not designed to be generalized to a wider population. Nevertheless, CAR is crucial for improving the quality of learning. Future researchers are advised to understand the actual learning problems in the classroom, understand student characteristics, and choose the appropriate learning model to implement in the classroom to ensure more successful CAR.

Conflict of interest: This research has received approval from the school. Respondent participation in this study was voluntary. All respondent data was kept confidential and used only for research purposes, as stated in the questionnaire request given by the researcher to the respondents. Subject identities are kept anonymous in this report. This study obtained informed consent from all subjects involved, namely schools and universities.

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