



COOPERATIVE LEARNING METHOD WITH ROLE PLAYING IN IMPROVING STUDENTS' UNDERSTANDING OF CONCEPTS AND COMMUNICATION SKILLS

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Article Info	Abstract
Article history: Received 17-02-2026 Revised 25-02-2026 Accepted 12-03-2026 Published 28-03-2026 How to cite: Monica, D. A., & Kurniawan, C. (2026). Cooperative Learning Method with Role Playing in Improving Students' Understanding of Concepts and Communication Skills. <i>Journal of Facilitating Learning and Improving Performance</i>, 1(1), 1–10. © The Author(s)  This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License	<i>This study addresses the low level of students' conceptual understanding and communication skills, which is linked to teacher-centered learning practices that limit student engagement. It proposes the integration of role-playing into cooperative learning as an innovative strategy to foster active participation. The research aims to compare students taught using a cooperative learning model with role playing and those taught without it. A quantitative approach with a quasi-experimental pretest-posttest control group design was used. The subjects were two classes, each consisting of 32 students: an experimental class and a control class. Data were collected through conceptual understanding tests and communication skills observation sheets. Analysis included normality and homogeneity tests, followed by independent sample t-tests and MANOVA. The results show significant differences between the two groups, both partially and simultaneously. MANOVA results indicate a significance value below 0.05, confirming differences in conceptual understanding and communication skills. Additionally, t-test results reveal that students exposed to role playing within cooperative learning achieved higher improvement than those in the control class. In conclusion, integrating role playing into cooperative learning positively enhances students' conceptual understanding and communication skills, making learning more active, interactive, and meaningful.</i> Keywords: Cooperative Learning; Role Playing; Conceptual Understanding; Communication Skills; Junior High School Students.

INTRODUCTION

The educational process is essentially a system that involves interrelated input, process, and output components. Input in education is students as subjects who undergo learning activities, the process refers to learning activities that take place in the classroom, while output is the learning outcomes achieved after the process is carried out (Hikmawati, 2022). Through this integrated system, education is expected to be able to produce quality, competent, and highly competitive human resources in facing the challenges of globalization (Mulyasa, 2021). However, the reality on the ground shows that the quality of educational outcomes, especially at the junior high school (SMP) level, still faces various problems.

One of the indicators that describes this condition can be seen from the results of the Organisation for Economic Co-operation and Development (OECD) through the Programme for International Student Assessment (PISA) study in 2018. The data shows that the literacy skills of Indonesian students in mathematics, science, and reading are still below the global average. Indonesian students' mathematics scores were recorded at 379 points, far below the international average of 489 points. This achievement indicates that most students still have difficulty understanding concepts and applying them contextually in problem solving. This condition emphasizes the need for innovation in the learning process so that students not only memorize the material, but really understand and be able to apply it.

Concept understanding is the ability of students to understand, explain, and relate a concept to other concepts appropriately. Students who have a good understanding of concepts are able to re-express the material in their own language, provide relevant examples, and apply the concept in different situations (Hulu & Siswanti, 2024). To achieve these abilities, a learning model is needed that encourages active student engagement. One alternative that can be applied is a cooperative learning model combined with role playing strategies. In this approach, students do not just passively receive information, but engage directly in group discussions, play specific roles, and build knowledge through meaningful learning experiences (Wiyudia et al., 2024).

In addition to understanding concepts, communication skills are also an important aspect that must be developed, especially in the implementation of the 2013 Curriculum. Communication skills include the ability to convey ideas orally or in writing, listen to other people's opinions, work together, and give polite and effective responses (Costigan & Brink, 2020). The cooperative learning model provides space for students to interact with each other in heterogeneous groups, thus creating positive dependence, individual responsibility, and promotive interaction (Harefa et al., 2022). When this model is integrated with role playing, students are trained to dare to speak in front of their peers, understand other people's perspectives, and adjust language according to the social context they play out (Rakhman et al., 2024). Thus, learning becomes more communicative, collaborative, and contextual.

However, based on the results of observations at SMPN 01 Lawang, the learning process is still dominated by conventional methods with relatively low student involvement. Teachers tend to act as information centers, while students only receive material without sufficient opportunities to discuss or express opinions. As a result, student participation is limited, interaction between students is less than optimal, and

communication skills have not been developed optimally. Further impacts are seen in the low understanding of concepts, as students do not gain a deep and meaningful learning experience.

Most previous research on cooperative learning models has focused more on improving cognitive learning outcomes alone, such as test scores or assignments, and not many have simultaneously examined improving communication skills (Budiono & Abdurrohman, 2020). On the other hand, research that integrates cooperative models with role playing strategies is also still relatively limited, especially at the junior high school level. In fact, the development phase of junior high school students is a very potential stage to train social skills, communication, and critical thinking skills through group work and role simulations (Nindialisma et al., 2025).

Based on this description, research is needed to empirically test the influence of the role playing integrated cooperative learning model on the understanding of concepts and communication skills of junior high school students. The integration of these two approaches is expected to be able to create a more active, interactive, and fun learning atmosphere, so that students not only understand the material conceptually, but also are skilled in communicating and working together. Therefore, the research entitled "The Influence of the Role Playing Integrated Cooperative Learning Model on the Understanding of Concepts and Communication Skills of Junior High School Students" is important to be carried out as an effort to provide innovative solutions in improving the quality of learning processes and outcomes at the junior high school level.

METHODS

The approach used is a quantitative approach with the type of experimental research. Experimental research is a scientific method that aims to determine the influence of an independent variable on the bound variable through the provision of certain treatments (Chen & Zhang, 2021). The design used is a quasi-experiment with a nonequivalent control group design. In this design, there are two groups, the experimental group and the control group, which are not randomly selected. Both groups were given a pretest to determine the students' initial abilities, then the experimental group was given treatment in the form of the application of an integrated cooperative learning model with role playing, while the control group used a cooperative model without role playing. After the learning process is completed, both groups are given a posttest to find out the difference in the final result.

Table 1. Research Design

Groups	Pretest	Treatment	Posttest
Experimental Classes	O ₁	Integrated cooperative learning role playing	O ₂
Control Class	O ₃	Cooperative learning without role playing	O ₄

Description:

O₁, O₃ : Pretest (initial ability to understand concepts)

O₂, O₄ : Posttest (final ability to understand concepts)

Treatment : The learning process in each group

The independent variable in this study was the role playing (X) integrated cooperative learning model, while the bound variables were concept comprehension (Y_1) and students' communication skills (Y_2).

The subjects of the study were all grade VIII students at SMPN 01 Lawang which were limited to grades VIII D and VIII E with a total of 64 students. The sampling technique uses total sampling based on the considerations and recommendations of the subject teachers. Class VIII D (32 students) was designated as an experimental class, while class VIII E (32 students) was a control class. The research was carried out in the odd semester of the 2025/2026 school year, namely in January-February 2026. The selection of the location was based on the heterogeneous characteristics of students and the openness of the school to the implementation of the research.

The use of a nonequivalent control group design was chosen because field conditions did not allow for full randomization. Nevertheless, this design still provides an adequate level of internal validity through the provision of pretests on both groups to identify initial equality of ability. Comparison of pretest and posttest results allows the identification of the effect of treatment in a more controlled manner.

Data collection techniques include testing, observation, and documentation. The research instrument consisted of: (1) a communication skills rubric sheet that measured aspects of clarity of delivery, accuracy of concepts, ability to interact, confidence, and cooperation; (2) a multiple-choice concept comprehension test with four alternative answers (A, B, C, and D) arranged based on competency indicators and cognitive levels C1–C2; and (3) observation sheets on the implementation of learning.

To find out the final value of students' communication skills by using the following formula:

$$Score = \frac{\text{The Score Obtained by the Student}}{\text{Maximum Score}} \times 100$$

Table 2. Student communication skills category

Score	Criteria
4	Excellent
3	Good
2	Enough
1	Less

Data analysis is carried out through several stages. First, the instrument quality test which included a validity test using Pearson Product Moment correlation and a reliability test using Cronbach's Alpha coefficient with the help of IBM SPSS 25 for Windows, with a reliability criterion of ≥ 0.70 . Second, the assumption test includes the normality test (Kolmogorov-Smirnov), the variance homogeneity test (Levene Test) (Usmadi, 2020), and the variance/covariance matrix homogeneity test (Box's M) as a prerequisite for the MANOVA analysis. Third, hypothesis testing was carried out using Multivariate Variance Analysis (MANOVA) to determine the difference in the influence of learning models on concept understanding and communication skills simultaneously at a significance level of 5% ($\alpha = 0.05$) (Chen & Zhang, 2021). All data analysis was done

with the help of IBM SPSS 25 for Windows.

RESULTS

Prerequisite Test

Prerequisite tests are performed prior to hypothesis testing to ensure that the data meet the basic assumptions of parametric analysis, particularly on the use of Multivariate Analysis of Variance (MANOVA). The fulfillment of this assumption is important so that the results of the analysis obtained are valid and can be interpreted appropriately.

Based on the results of the normality test in Table 3, it is known that the communication skills data in the control class has a significance value of 0.063 and the experimental class of 0.339, both of which are greater than 0.05, so that they are normally distributed. Furthermore, the concept understanding data in the experimental class showed a significance value of 0.058 (> 0.05) which means that it is normally distributed, while in the control class a significance value of 0.034 (< 0.05) was obtained which indicates that the data is not normally distributed.

However, the analysis can still be continued using MANOVA with some considerations. First, the number of samples in both groups was balanced (32 students each) and had met the minimum size ($n \geq 30$), so based on the Middle Limit Theorem the sampling distribution tended to be close to normal. Second, the results of the variance homogeneity and covariance matrix homogeneity test show that the data meet the homogeneity assumption. Third, MANOVA's analysis is known to be quite robust against minor normality violations, especially in balanced sample sizes. Therefore, the use of MANOVA in this study can still be done with careful interpretation.

Table 3. Shapiro-Wilk Normality Test Data

Shapiro-Wilk	Statistic	df	Sig.
Communication value D	.937	32	.063
Communication value E	.963	32	.339
Comprehension value D	.928	32	.034
Comprehension value E	.936	32	.058

The variance homogeneity test was carried out using Levene's Test to determine the similarity of variance between groups.

The test results showed that the overall significance value was greater than 0.05, so it can be concluded that the variance between groups is homogeneous.

Table 4. Levene Homogeneity Test

Living Statistic	df1	Df2	Sig.
The value of communication	1	62	.800
Comprehension value	1	62	.324

Furthermore, the variance-covariance matrix homogeneity test was carried out using the Box's M Test as one of the prerequisites in the MANOVA analysis.

Table 5. Box's M Test Homogeneity Test

Box's M	F	Sig.
7.140	2.297	.075

A significance value of 0.075 (> 0.05) indicates that the variance-covariance matrix between groups is homogeneous, so that the MANOVA analysis can be continued.

Hypothesis Testing

After all prerequisite tests were met, hypothesis testing was carried out using Multivariate Analysis of Variance (MANOVA) to determine the influence of the learning model on two dependent variables simultaneously, namely concept understanding and communication skills.

Table 6. Multivariate Test Results

Effect	Value	F	Sig.
Wilk's Lambda Class	1	371.272 ^b	.000

Based on the results of the MANOVA test using Wilks' Lambda, a significance value of 0.000 (< 0.05) was obtained. This indicates that there is a significant difference between the experimental class and the control class on students' simultaneous conceptual understanding and communication skills. Thus, the research hypothesis that states the influence of learning models together is acceptable.

Advanced Test (Partial)

To determine the effect separately on each dependent variable, a follow-up analysis was carried out using Tests of Between-Subjects Effects.

Table 7. Test Results of Between-Subjects Effects

Bound Variables	F	Sig.
Communication Skills	694.951	.000
Concept Understanding	1.345	.251

The results of the analysis showed that the students' communication skills had a significance value of 0.000 (< 0.05), so there was a significant difference between the experimental class and the control class. This indicates that the application of an integrated cooperative learning model of role playing has an effect on improving students' communication skills.

However, in the concept understanding variable, a significance value of 0.251 (> 0.05) was obtained, which showed that there was no significant difference between the two groups. Thus, the application of the learning model does not show a significant influence on students' understanding of concepts.

DISCUSSION

The results of the study showed that there was a significant difference between students who learned using the cooperative learning model with role playing and students who learned using the cooperative learning model without role playing, both in the variables of concept understanding and communication skills. These findings indicate that the integration of role playing in cooperative learning has a stronger

positive influence than the conventional use of cooperative models.

The Influence of Cooperative Model with Role Playing on Concept Understanding

The improvement of conceptual understanding in the experimental classroom can be explained through the perspective of constructivism theory, which emphasizes that knowledge is actively built by learners through social experiences and interactions (Gillies, 2016). In cooperative learning with role playing, students not only passively receive information, but engage in a process of exploration, discussion, and simulation that allows them to construct meaning independently. Role-playing activities provide a concrete experience that helps students relate abstract concepts to real situations. This is in line with the opinion of Anderson & Krathwohl (2001) who states that understanding concepts involves active cognitive processes such as interpreting, classifying, explaining, and inferring. In the context of role playing, students indirectly carry out the entire process when they understand the scenario, act out the characters, and reinterpret concepts through dialogue. Thus, learning becomes more meaningful (meaningful learning) (Junus, 2022).

In addition, Kolb's experiential learning theory also supports these findings. In the role playing model, students go through the stages of concrete experience (role-playing), reflection (discussion), conceptualization (understanding concepts), and active experimentation (reapplying in other contexts) (Kolb, 1984). This cycle reinforces the understanding of concepts in depth and continuously.

The findings of this study are also consistent with previous research that shows that cooperative learning can improve understanding of concepts through discussion activities and group work. For example, the Jigsaw and Think Pair Share models have been proven to be able to improve students' ability to explain, connect, and apply concepts (Gianistika et al., 2020). However, this study makes a new contribution by showing that the integration of role playing in cooperative learning is able to provide more optimal results than cooperative without variation in methods.

On the other hand, in the control class, even though the cooperative model was used, learning still lacked contextual experience. The discussions that are carried out tend to be theoretical so that students are not fully able to internalize the concept. This shows that cooperative learning alone is not enough, but needs to be enriched with applicative and contextual methods such as role playing.

The Influence of Cooperative Model with *Role Playing* on Communication Skills

The results showed that students' communication skills in the experimental class were higher than those in the control class. This is because *role playing* provides students with the opportunity to practice direct communication in real-life situations.

In the perspective of Bandura's social learning theory, communication skills develop through the process of observation, imitation, and practice. In role playing activities, students observe how to communicate, imitate dialogue, and get feedback from friends and teachers. This process gradually strengthens communication skills.

In addition, Vygotsky's *theory of social constructivism* also explains that social interaction is a major factor in cognitive and language development. Cooperative learning with *role playing* creates an intense social environment, where students

interact, discuss, and negotiate meaning. This encourages the formation of effective *two-way communication* skills.

Developing communication skills are not only limited to the verbal aspect, but also include nonverbal aspects such as facial expressions, eye contact, and voice intonation. In *role playing*, students are required to adjust the way they speak to the characters they are playing, so that they learn to control and develop communication thoroughly.

These findings are in line with previous research that shows that *role playing* can increase the courage to speak, the clarity of conveying ideas, and the ability to respond to other people's opinions (Khatimah et al., 2025). In addition, other research also states that cooperative learning is able to improve communication skills through group interaction (Afif et al., 2025). By combining these two approaches, the results obtained become more significant.

In the control class, students' communication skills tended to be lower because learning activities were not specifically designed to actively practice communication. The discussions that occurred did not provide an equal opportunity for all students to speak, so only certain students were dominant.

Simultaneous Influence Analysis (Concept Understanding and Communication Skills)

The results of the MANOVA test show that the cooperative learning model with role playing has a significant influence simultaneously on concept understanding and communication skills. This shows that the two variables are interrelated and can be developed simultaneously through the right learning strategies.

A good understanding of concepts allows students to convey ideas more clearly, while good communication skills assist students in constructing and clarifying their understanding. Thus, there is a reciprocal relationship between the two variables.

The integration of cooperative learning and role playing creates holistic learning, which focuses not only on the cognitive aspect, but also the affective and social aspects. This is in line with

the demands of 21st century learning that emphasize the importance of communication, collaboration, and critical thinking skills.

Theoretical and Practical Implications

Theoretically, this research reinforces the theories of constructivism and social learning that emphasize the importance of interaction and experience in the learning process. In addition, this research also contributes to the development of learning models by integrating two approaches, namely cooperative and role playing.

Practically, the results of this study imply that teachers need to implement innovative and interactive learning models to improve the quality of learning. Cooperative models with role playing can be used as an alternative effective learning strategy to improve students' understanding of concepts and communication skills at the same time.

CONCLUSION

Based on the results of the research and discussion on the influence of the cooperative learning model with and without role playing on the concept understanding

and communication skills of grade VIII students of SMPN 01 Lawang, it can be concluded that the cooperative model without role playing does not show a significant influence on students' concept understanding, because the results of the multivariate analysis show a greater significance value so that the zero hypothesis is accepted. In contrast, the role playing integrated cooperative learning model was shown to have a positive and significant influence on students' communication skills, indicated by the smaller significance values so that alternative hypotheses were accepted. This model is effective in improving the ability to convey ideas in a structured manner, the appropriate use of verbal and nonverbal expressions, and the ability to actively listen through simulative and contextual activities. Overall, the findings of this study confirm that cooperative learning combined with role playing is superior in developing students' communication skills compared to cooperative models without role playing in improving understanding of concepts, so the selection of learning strategies needs to be adjusted to the competency goals to be achieved.

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