
Research Article

Effectiveness Cooperative Learning Numbered Heads Together to Improve the Social Skills of Kindergarten's Student

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Abstract: This quasi-experimental study used nonrandomized control group pretest posttest design, aiming to find out whether cooperative learning techniques numbered heads together effectively improved social skills in kindergarten students. The result of statistical test by using mann whitney and wilcoxon test showed significant 0,005 (<0,05) indicating that there is difference of social skill in research subject before and after implementation. This suggests that cooperative learning techniques numbered heads together effectively improve the social skills of kindergarten students both on aspects of communication, cooperation, assertiveness, responsibility, empathy, self-involvement and self-control.

Key Words: cooperative learning. Numbered heads together, social skills.

INTRODUCTION

Preschool age is the most important time in human life so that preschool education is not only the first education for children, but it is very important for the child development stage (Ugaste, 2013). Preschool age is a vital and critical phase for the child's future where the influence of parental care and the experience of the surrounding environment will be the foundation for the physical, cognitive, social, emotional and childcare aspects of the child.

One important aspect of preschool development is the aspect of social development, in which the development of the child's social skills will become the basis of academic achievement as well as the ability of children's performance in the future life (McClelland & Morrison, 2003). Zins (2007) explains that to develop social skills in children, the best thing to do is to engage children in social interaction rather than cognitively teaching children about social skills. Weissberg (2007) adds that a program will be effective if used, taught, and applied sequentially, a step-by-step approach, a focus on improving the ability to be achieved, and having specific goals.

Social skills are a collection of behaviors learned by individuals so that individuals can interact with others and do not engage in unexpected behavior (Gresham, 2016; Rawles, 2016). So social skills are behaviors that are also taught, learned and applied in everyday life (Gresham, 2001). Social skills are basic skills for children to start relationships with others. Low social skills in children will increase the likelihood of children experiencing behavioral disorders in schools, behavior not paying attention both at home and at school, difficulty building relationships, low self-concept, low academic achievement, to depression (Bloom, 2007).

Children learn social skills from adults and other children in their immediate surroundings, so children will learn the basics

of social skills and will grow throughout the development of children into adulthood. Because of the importance of social development in early child development, all children need to learn and practice social skills in everyday life.

Attempts to develop social skills become challenges for the kindergarten teacher. During the classroom, teachers use methods of telling stories about kindness, giving advice, giving rules to students and group seating arrangements so that students can join and can accept their friends. Ways used by teachers have not been able to succeed to the fullest. This is shown through the emergence of negative behaviors shown by students in the classroom.

According to Spence (2003), there are several interventions that can be used to improve social skills and one of them is cooperative learning. Cooperative learning is a learning situation where two or more students, learn and complete a common task (Siegel, 2005). Johnson and Johnson (2002) explained that in cooperative learning, students will benefit or benefit both academically and socially when students interact with each other to jointly complete the learning objectives. Cooperative learning methods have been proven empirically an effective teaching strategy for both teachers and students who encourage learning and improve social skills among students (McCafferty, 2006).

Based on the description of the problem above, it is necessary to develop recognition and improvement of social skills in kindergarten students, so the writer tries to apply cooperative learning to kindergarten students. Cooperative learning used in this study using the technique numbered heads together.

Method

This study is a quasi-experimental study. In a quasi-

experimental study, a pre-test and post-test design approach was applied to the quasi-experimental design. The researchers provided experimental and control treatment to whole groups, administered pre-tests to both groups, conducted experimental treatment activities only with the experimental group alone and afterwards administered post-tests to assess the differences between the two groups (Creswell, 2015).

The research design is a plan or strategy used to answer the research problem. Design or planning is required before doing or making something so that the results are in accordance with wishes or expectations (Senati, 2011). This experimental study was conducted to determine the effect of independent variables on dependent variables. In this case, the researcher uses the research design pattern of nonrandomized control group pretest posttest design. The design of this study may be described as follows (Ellis & Levy, 2011):

	t ₁ Initial Test	t ₂	t ₃ Final Test
Group A/Eksperiment	M _{A1}	T _x	M _{A3}
Group B/Kontrol	M _{B1}	-	M _{B3}

Information :

- M_{A1} : Pretest eksperimental group
- M_{A3} : Posttest eksperimental group
- M_{B1} : Pretest control group
- M_{B3} : Posttest control group
- T_x : Cooperative learning technique
numbered heads together

Subjects in this study are kindergarten student who have social skills that are below average based on the results of social skills scale. The determination of subject categories with under-rated social skills was derived based on the social skills skill result of the Social Skill Improvement System (Gresham, 2008) given to teachers and parents. During the intervention process, as for the stages used in this study, as follows:

1. Looking for a kindergarten school.
2. Conducting interviews and preliminary observation of teaching and learning process as well as the state of students during the process of receiving learning from teachers.
3. Provide a scale of children's social skills assessment by teachers and parents. This scale is given for early screening to get subjects with under-average social skills. In this study using Social Skill Improvement System Skills Improvement System (Gresham, 2008).

Explanation of Subject Selection Measure Tool

Parent Scale	Teacher Scale
Consists of 46 items	Consists of 46 items
Indicators used are communication, cooperation, assertiveness, responsibility, empathy,	Indicators used are communication, cooperation, assertiveness, responsibility, empathy, self-involvement and self-

self-involvement and self-control.	control.
The categories on the gauge are never, rarely, often and almost always.	The categories on the gauge are never, rarely, often and almost always.
The category scores on the measuring instrument are never (0), rarely (1), often (2) and almost always (3).	The category scores on the measuring instrument are never (0), rarely (1), often (2) and almost always (3).
The criteria that categorize the subject are students who have under-average social skills based on the results of the parental social skill scale.	The criteria that categorize the subject are the students who have under-average social skills based on the results of the teacher's social skill scale.

4. Enroll students who will be the subject of research.
5. Finding an observer that will assist the author in making observations to see social skills before and after the cooperative learning techniques technique numbered heads together.
6. Provide module and provide explanation about cooperative learning process technique numbered heads together that will be used by teacher.
7. Provision of treatment in the form of cooperative learning techniques numbered heads together on students by teachers.
8. Conducting observations during the intervention process by using the observation sheet of cooperative learning process technique numbered heads together.
9. The author evaluates the results of applying cooperative learning techniques numbered heads together by using social skills skill scale Social Skill Improvement System (Gresham, 2008).
10. The author performs analysis of research data.

This research was conducted at TK Al Hujjah on Sriwijaya road 30 No 5 District Summersari, Jember. Kindergarten Al Hujjah is one kindergarten formed by a foundation. The validity of research conducted using social skills is done by observation and scale. The validity of the measuring instrument in this study was achieved by consulting the items in the measuring instrument on professional experts. Reliability in this research will be obtained through inter rater in observing behavior. The equations used to determine the reliability of inter rater are as follows (Sattler, 2002):

$$\% \text{ Arr} = \frac{\text{Arr} \times 100}{\text{Arr} + \text{D}}$$

$$\text{Arr} + \text{D}$$

% Arr : Percentage of approval for total scale

Arr : The number of scales on which the two observers agree on the rating

D : The number of scales on which the two observers disagree on the rating

Data Collection Technique

During the research process conducted in 3 stages of preparation, implementation and evaluation :

Preparation phase

At this stage of preparation is done by doing a subject search through teachers and parents. Students who will be subjects are students who have under-average social skills based on the results of the scale of the assessment of parents and teachers. After evaluated and obtained the subject of research, the author will explain to the teacher related subject research author. In addition the authors will provide the first module material that aims for teachers to understand better about cooperative learning techniques numbered heads together and can provide the correct role play. In this case the subject selection process is entirely based on the results of the scale of social skills. The following categorization scores on social skills scores (Gresham, 2008):

Score of Social Skills Scale

Score	Level Behaviour
131-160	High
116-130	Above Average
85-115	Average
70-84	Under Average
40-69	Low

Students who are selected as research subjects are students who are in the category below average. Students who are in the category below average there are 10 students from class B2 and 10 students from class B1. The author specifies that class B2 is a class of manipulations in which the author will apply cooperative learning techniques numbered heads together and class B1 is a control class where the author does not apply cooperative learning techniques numbered heads together.

Implementation Phase

Once the subject is obtained, the teacher will teach as usual with the conditions the students have combined. During the learning process, the observer will perform the process of observation related to the implementation of cooperative learning techniques numbered heads together both in the student response and application by the teacher.

During the first week, students will work in a small group of 4 children. Students sit on the basis of previous teacher's choice. Each group has 1 to 2 subjects. After the formation of groups, each child is numbered 1 through 4 and is allowed to sit on the bench of each group. Then the teacher can start learning. For 8 days, students who are the subjects of study will learn and do group work together with their respective groups. After the group is formed, the writer assisted by the observer rater adjusts the position so that it is easy to observe the subject of the study. Previously the subject of research has been marked

by the author to facilitate the process of observation.

Evaluation Stage

During the process of applying cooperative learning techniques numbered heads together progress, students will be observed to see cooperative learning process. During the observation observer will also make observations of teachers to see the role of teachers during the implementation process of cooperative learning techniques technique numbered heads together take place. The result of this evaluation stage will be the percentage of inter rater approval of the observation result that has been done at the implementation stage.

Group Procedures on the Opening of Learning by Using Numbered Heads Together:

1. Teachers form the class into small groups that are heterogeneous, each group consists of 4-5 people
2. Numbering, each member of the group is numbered 1-4.
3. Teacher gives lesson material then after finished teacher give question for group discussion material.
4. Students discuss and think together to complete the assignment.
5. The teacher checks the student's understanding by calling one of the group numbers to answer, "How many students with number___ can answer?"
6. Students with a number called will respond (such as raising a hand and holding a finger)
7. The teacher shows one of the students with the number called.
8. The teacher asks if there are other students who want to refute or add an answer.
9. Teachers provide feedback to student answers.

Cooperative learning process technique numbered heads together lasted for 8 days. In 8 days guided by kindergarten teacher. In this process all students sit in small groups of up to 4 children. Subject seating is arranged based on teacher choice.



Figur 1. The Process of Students Working in Group on Cooperative Learning Technique Numbered Heads Together

Result and Discussion

Mann Whitney's Test of Social Skills on Pre Control and Pre Experiments Group Test Statistics(b)

Pre Social Skills	
Mann-Whitney U	47.000
Wilcoxon W	102.000
Z	-.228
Asymp. Sig. (2-tailed)	.820
Exact Sig. [2*(1-tailed Sig.)]	.853(a)

a Not corrected for ties.

b Grouping Variable: Group

There is no significant difference in social skills between pre control and pre experiment, indicated by Asymp value. Sig. (2-tailed) of 0.820 is greater than 0.05. It can be concluded that there is no difference in social skills in kindergarten students before the application of cooperative learning techniques numbered heads together.

Mann Whitney's Test of Social Skills on Post Control and Post Experiment Group Test Statistics(b)

Post Social Skills	
Mann-Whitney U	.000
Wilcoxon W	55.000
Z	-3.787
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000(a)

a Not corrected for ties.

b Grouping Variable: Kelompok

There is a significant difference in social skills between post control and post experiment, indicated by Asymp value. Sig. (2-tailed) by 0.000 less than 0.05. It can be concluded that the application of cooperative learning techniques numbered heads together effectively to improve social skills in kindergarten students.

In addition to using mann whitney different test that serves to determine the effectiveness of the results of research by comparing the pre and post control group with the experimental group directly, the authors also use a different test wilcoxon aims to determine the effectiveness of research results by comparing the results of each pre and post control group as well as experimental groups.

Wilcoxon Signed Test Ranks Test Social Skills Pre and Post Observation Experiment Group Test Statistics(b)

Post Social Skills - Pre Social Skills	
Z	-2.805
Asymp. Sig. (2-tailed)	.005

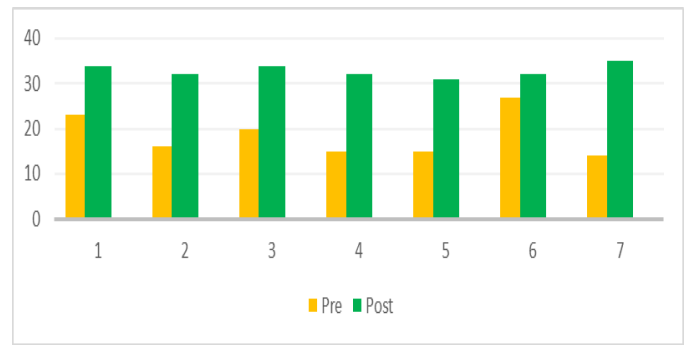
a The sum of negative ranks equals the sum of positive ranks.

b Wilcoxon Signed Ranks Test

Given the experimental group, there is a significant difference in social skills between pre and post observations, indicated by Asymp values. Sig. (2-tailed) of 0.005 less than 0.05. It can be concluded that the application of cooperative learning

techniques numbered heads together effectively to improve social skills in kindergarten students.

Pre Chart and Post Subject 1 Experiment Group



Wilcoxon Signed Test Ranks Test Social Skills

Pre and Post Observation Control Group Test Statistics(b)

Post Social Skills – Pre Social Skills	
Z	-1.403
Asymp. Sig. (2-tailed)	.161

a The sum of negative ranks equals the sum of positive ranks.

b Wilcoxon Signed Ranks Test

Known to the control group, there was no significant difference in social skill between pre and post observation, indicated by Asymp value. Sig. (2-tailed) of 0.161 is greater than 0.05. It can be concluded that there is no change in social skills in kindergarten students who have not applied cooperative learning techniques numbered heads together.

Based on the results of data analysis using statistics, it is concluded that the application of cooperative learning techniques numbered heads together effective to improve social skills in kindergarten students. Based on the results of research conducted by the authors showed that cooperative learning techniques numbered heads together also effectively improve all aspects of the skills of kindergarten students are aspects of communication, cooperation, assertiveness, responsibility, empathy, self-involvement and self-control. The statistical results show that aspects of communication, cooperation, assertiveness, responsibility, empathy, self-involvement and self-control have significance levels below 0.005.

When applying cooperative learning techniques numbered heads together, children will join with other friends who have different abilities, skills and experience in doing group work. In cooperative learning techniques numbered heads together children will do group work together and teachers will check students' understanding by calling a number. That way, cooperative learning techniques numbered heads together can help students to learn with other students and avoid the dominance of one of the student numbers in a group.

One aspect of social skills that also develops when cooperative learning techniques are numbered heads together is communication. Behavior communicates to students such as

giving appropriate responses when spoken to, thanking them when assisted by teachers or friends and speaking in a friendly tone.

Another aspect that developed during cooperative learning techniques numbered heads together is working together. Behaviors work with students such as implementing teacher or group members' direction or direction, completing group assignments without disturbing other friends and ignoring some teasing friends.

The next aspect that develops when done cooperative learning techniques numbered heads together is assertive. Assertive behaviors that were apparent during the study included asking for help to the teacher when facing difficulties in performing tasks, praising the progress of group tasks without being arrogant and daring to defend oneself or his group's friends if there were other groups that were slightly seductive.

Another aspect that also develops when cooperative learning techniques are numbered heads together is the responsibility. Behavioral responsibilities expressed by students are, among other things, responsible for their role in group assignments, being careful when using learning tools and being responsible for their behavior as well as cleaning paint attached to their group tables.

The next aspect that develops in cooperative learning techniques numbered heads together is empathy. The empathy behaviors that the students show include giving attention to the members of the group who participate in the task and encouraging the group when starting the task.

Another aspect that also developed during cooperative learning techniques numbered heads together is self-involvement. The student's self-involvement includes students joining the established group, interacting well with group members and engaging in group activities.

Another aspect that also developed during cooperative learning techniques numbered heads together is self-control. The student's self-control amongst others remained calm when other students flirted, remained calm when having different desires in group work with group members and negotiating with group mates when having differences of opinion.

As for research, teachers also play an important role in developing children's social skills in applying cooperative learning. Teachers not only teach, but also provide examples in the application in everyday life. So the first step that teachers can do is to explain to the children about cooperative learning, the importance of cooperative learning and social skills and evaluate the application of cooperative learning and improvement of social skills expressed by students (Mercendetti, 2010).

Conclusion

The result of data analysis and discussion of research that has been done by researcher indicate that cooperative learning technique numbered heads together effective to improve social skill at kindergarten students. The effectiveness of cooperative

learning methods with these techniques is seen with the improvement of social skills in all aspects of communication, cooperation, assertiveness, responsibility, empathy, self-involvement and self-control. Improvement is shown through differences of observation results before and after the application of cooperative learning techniques numbered heads together.

Based on the results of research that has been obtained, the suggestions that can be given are as follows:

1. For teachers and schools

- a. The school can provide materials to students at any given time in accordance with the school policy on cooperative learning techniques numbered heads together and the benefits of simple social skills that can be done by students both at school and at home.
- b. Teachers can use cooperative learning techniques numbered heads together as a variety of learning methods in the classroom so that students' social skills can be more developed.
- c. Teachers can apply cooperative learning techniques numbered heads together on all aspects of learning both on the cognitive, physical, motor and emotional aspects of children's kindergarten students.
- d. Teachers can use numbering media for the application of cooperative learning techniques numbered heads together that tend to be more favored children because of funny, among others, birthday cone and cone hat for birthday.
- e. Teachers can communicate the development of children during cooperative learning techniques numbered heads together as well as children's social skills in school to parents.

2. For further research

- a. Researchers then use cooperative learning techniques numbered heads together with a longer time.
- b. Researchers can then provide some alternatives if there is a limitation of teacher assistance class of kindergarten students.
- c. Researchers can then take advantage of the media if the class has LCD and projector as a daily implementation learning plan.
- d. Researchers can then provide a checklist of simple social skills of kindergarten students to teachers so that teachers can analyze the development of social skills of students.

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