Development of Cooperative Learning Model Assisted by Lotto Educative Media to Improve Emotional Social Early Childhood

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Article Info

Abstract

Emotional social skills need to be owned by early childhood so that it is easy for there to socialize with friends. The purpose of this study is to describe a cooperative learning model for early childhood, describing cooperative learning model design assisted by lotto educational media to improve social-emotional early childhood and describe the final model of the effectiveness of cooperative learning development models assisted by lotto educational media to improve social-emotional early childhood. The research method used is research and development research. Data analysis techniques using paired sample t-test and independent sample t-test. The research subjects were teachers, and kindergarten students aged 5-6 years. The instrument is based on the level of achievement of social emotional development in early childhood. The results of the observations show that when learning in the classroom, teachers still rarely apply cooperative-based learning that can improve socialization activities among students. The results of this model are useful and practical for improving social-emotional early childhood. The children's social-emotional improvement in the experimental class and the social-emotional average of the experimental class children were better than the control class. The benefits of this study can add information and knowledge to the broader community and early childhood about cooperative learning models assisted by lotto educational media to improve social-emotional early childhood.

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INTRODUCTION

Children are individuals who have great potential that still has to be developed. The development of children potential, directed, and optimal in the early age range will have an impact on their future lives. Therefore the attention given at an early age will significantly determine the quality of human life in the future. This period, according to Annisa, and Tasuah (2016) is called the golden age because the child's mind is very easy to absorb whatever happens and the opportunity for the child to develop his mindset is very valuable. Meanwhile, according to Liana, Rahardjo, and Sjamsir (2018) early childhood is a child aged 0-7 years or playing period.

Early childhood education is one of the efforts made to stimulate the various potentials that children have to develop optimally. Wiyani, and Barnawi (2014) explained early childhood education is the provision of efforts to stimulate, guide, nurture, and provide learning activities that will produce abilities and skills in early childhood. Learning in kindergarten has its peculiarities according to physical growth, and the development of child psychology.

One aspect of development that need full attention of the teacher and parents is the child's social-emotional development. Emotional social skills need to be owned by early childhood so that it is easy to socialize with friends. This is following Ananda, and Fadhilaturrahmi (2018) statement, which emphasizes that social-emotional development is essential for students to create a harmonious relationship between students and teachers and can create a conducive situation so that the objectives of classroom learning can be achieved.

Social-emotional development consists of two terms, there are social development and emotional development. According to Lita (2018) social development is the level of interaction between children and others, while emotional development is an overflow of feelings when children interact with others. It can be concluded that social-emotional development is the sensitivity of children to understand the feelings of others when interacting in everyday life. But in reality, according to Adrianindita (2015) early childhood social-emotional abilities are still very lacking. This can be seen from the activities of children who play alone, do not want to join and share toys with their friends. Observations also show that when at home children tend to play alone with games in smartphone applications, and when learning in class teachers still rarely apply cooperative-based learning that can improve socialization activities among students, even though collaboration with friends can foster children's emotional social. Vodopivec (2011) stated that cooperative learning has the purpose of connecting active participation between children.

Based on the above problems, it is important to development a learning program that can improve socialization activities between students and train students to control the emotions of each student and interesting learning to achieve the learning objectives that have been set.

Cooperative learning, according to Umaroh (2013) and Rohmah, Rustono, and Rifa'i (2016) comes from the word "cooperative" which means doing things together by helping each other as a small group consisting of 4-6 heterogeneous members. So cooperative learning is learning carried out in groups, and when given a problem is resolved jointly between group members. For students to feel interested in learning activities, an educational media game is needed.

Previous research conducted by Bukunola, and Idowu (2012) revealed that students with cooperative learning strategies with joint learning had higher academic achievement than students in conventional lecture groups. The study by Akçay (2016) states that in early childhood, the cooperative learning model is very suitable to apply compared to traditional learning models. Tran, and Lewis (2012) study shows that student-oriented cooperative learning is more effective in improving learning achievement. Altun (2015) revealed that to be successful, it is better to learn together than to study alone. Agree with Ramani, and Brownell (2014) that shared abilities can create tolerance. Research Gillies, and Boyle

(2010) show that cooperative learning is a well-documented pedagogical practice that encourages academic achievement and student socialization. This is supported by the results of Bukunola and Idowu (2012) study, which concluded that learning with cooperative learning models was effective in increasing student motivation and achievement. Research results of Riza, Awalya, and Suharso (2014) which state that content mastery services with playing techniques (games) are attractive services to improve students' emotional maturity. Pranoto, Sugiyo, and Hong (2014) stated that teachers allowed children to be creative in playing their roles and choosing themselves.

The response of teachers and students to learning mostly provides a positive response. This shows that the cooperative learning model with practical lotto educational media is used to improve the social-emotional abilities of early childhood. The previous research that examined Lotto has been done by Williams, Deahl, Rubel, and Lim (2015) which describes City Digit: Local Lotto in the curriculum with supporting web media applications for Junior High School students.

While the difference with this study is located on the type of media used where this study uses educational media Lotto games in early childhood, this lotto educational media is equipped with colorful images of children's activities that can enhance interesting social-emotional and is equipped with a guidebook.

Rahman, and Arsyad (2009) argue that lotto is a small card that contains images, text, numbers, or symbols that increase or guide children to something related to that picture. Learning that uses games aims so that students do not feel bored because students think they are playing but are doing learning too.

Based on the description above, the purpose of this study is (1) to describe cooperative learning models for early childhood in the field, (2) describe the design of cooperative learning models assisted by lotto educational media to improve the social-emotional abilities of early childhood, and (3) describe the final model of the effectiveness of the development of cooperative learning models assisted by lotto educational media to improve early childhood social-emotional abilities.

METHODS

This research is a research or development research, which will eventually produce an innovation, or new product. According to Sugiyono (2013) to obtain specific products used research that is needs analysis, and test the effectiveness of the products produced to be able to benefit the wider community, then the product effectiveness test is conducted.

According to Sugiyono (2013) the research and development stage is divided into several stages and adapted to the needs of the study. Following are the stages of development research that have been adapted to the needs of the study, namely: (1) potential and problems, (2) data collection, (3) product design for the preparation of cooperative learning models using lotto game media, (4) product design validation of cooperative learning models using lotto game media, (5) revision of product design for cooperative learning models using media lotto games, (6) product testing, and (7) development products.

The locations used for this study were Integrated Islamic Kindergarten Permata Insani Jamil Jepara, Al-Hikmah Jepara Kindergarten, AL Ishlah Integrated Kindergarten, and Toddler Kindergarten Puri Bapangan Jepara. The research subjects were Kindergarten teachers, and students aged 5-6 years in each Kindergarten 2017/2018 school year.

The research variables used in this study are control variables and independent variables. The independent variable of this study is the use of cooperative learning models assisted by lotto educational media. The dependent variable of this study is the social-emotional ability of early childhood. The instrument grid used in this study was based on the level of achievement of early childhood social-emotional development. Ages 5-6 years, which is playing with peers, knowing the feelings of their friends, and responding fairly, and sharing with others. Data collection

techniques used were interviews, observation, questionnaires, and documentation. The research instruments used were teacher ability assessment sheets, children's social-emotional ability assessment sheets, student response sheets to learning, teacher response questionnaires to learning, validation sheets.

Data analysis techniques related to the data obtained are (1) sheet validation model of cooperative learning with media lotto games, aiming to calculate the results of validation models of cooperative learning with media lotto games, (2) design validation sheet model of cooperative learning, with media lotto games. The design and model of cooperative learning with lotto game media can be tested if after validating it meets the results of the analysis with minimum criteria of "good", (3) analysis of the

Table 1. Scores and Categories of Children's Emotional Social Capabilities

Achievement of score	Category	Information
26-32	Excellent development (BSB)	Children's social-emotional abilities develop very well
20-25	Developing expectations (BSH)	Children's social-emotional abilities develop as expected
14-19	Start growing (MB)	Children's social-emotional abilities begin to develop
8-13	Not developing (BB)	children's social-emotional abilities have not developed

RESULTS AND DISCUSSION

The form of cooperative learning assisted by lotto educational media is learning that is done by students cooperatively or together. Cooperative learning by using lotto educational media is supported by a guide book for the use of lotto educational media. This lotto educational media is equipped with interesting images, especially images of activities that can improve children's social-emotional.

The cooperative learning model is a cooperative learning model implemented at school. The description of the factual model includes planning, implementation, and evaluation of cooperative learning models. The description of the factual model in it discusses

effectiveness of cooperative learning models with media lotto games.

The success criteria for development in this study are seen from 3 aspects, namely (1) improvement of social-emotional abilities in the experimental class, analyzed by paired sample t-test, (2) differences in social-emotional abilities, between the experimental class and the control class, were analyzed by the independent sample t-test, (3) analysis of response data, cooperative learning models with lotto game media are declared practical if the respondent gives a positive response of at least 80% on average.

The range of scores and categories of children's social-emotional abilities are presented in table 1.

activities, weaknesses, and things that need to be improved in the planning, implementation, and evaluation stages. In general, the improvement of the factual cooperative learning model on unplanned learning in detail, has not yet linked the material to the theme, and the capabilities that need to be improved, evaluations that are still carried out are only at the end of learning, so this needs to be corrected.

After knowing the factual model regarding cooperative learning, a model design (conceptual model) is then made. This model design contains things that can be done to reduce the shortcomings of factual cooperative learning models so that it can be said that the design of this model is the development of cooperative learning derived from factual models. The description of the conceptual model is presented in table 2.

Validation Model

The validation model consists of two instruments that are validated, namely a guidebook model cooperative learning with lotto educational media, and the design of cooperative learning models with lotto educational media. This validation model is carried out before the product trial, and the results of this validation can find out the shortcomings of the models that have been made, and then are corrected according to the results of the validation.

Model design validation aims to assess and find out that the design of the model that is made is feasible to use (valid), or invalid. Model design validation carried out by experts and practitioners, in this case, is the teacher. Experts who validate the design of cooperative learning models with lotto educational media consist of two experts, while practitioners or validating teachers consist of two people.

Table 2. Lotto Assisted Media Learning Cooperative Learning Model

Component	Factual model	Conceptual model
Cooperative learning model planning	Planning made is still not systematic, only RPPH and RPPM	Planning is done according to learning objectives, themes and sub-themes, learning tools, assessment instruments, and evaluations Prepare an appropriate and interesting learning model for children
Implementation of cooperative learning models	The implementation is still not according to plan	The teacher conveys the objectives to be achieved, and the themes to be studied, and motivates students
Early activity	Delivering learning material	The teacher delivered material for strengthening learning carried out using play
Core activities	Sharing groups with teacher choices (according to the teacher's direction)	Can organize and guide children in learning groups by playing, so that learning is effective and efficient The role of the teacher to guide and direct children when learning
Final activities	There is no review of learning and rewards for students who play the game	Perform reflection activities (review) of the material and learning activities that have been carried out and give awards to the study group
Evaluation	Not making assessment instruments (evaluation is not conducted every meeting)	Evaluation activities are carried out at each meeting, and during learning using instruments that have been made, including evaluation of processes, and results

The results of the manual book validation model of cooperative learning with lotto educational media by experts can be seen in table 3. Based on these results, the guidebook model of cooperative learning with lotto educational media has very valid qualifications, because the results of the validation obtained a score of ≥ 69, which means that the guidebook model of cooperative learning with lotto educational media can be used without revision. Criteria 69 shows that the value becomes a minimum value for validation testing. The components assessed are the beginning, linguistic, presentation, and evaluation forms.

Table 3. Results of Guidance Validation by Experts

Validator	Score
I	82
II	80
Average	81

The results of the design validation model of cooperative learning with lotto educational media by experts can be seen in table 4. Based on these results, the design of cooperative learning models with lotto educational media has very valid qualifications, because the results of the validation get a score of ≥ 25 which means that the design model of cooperative learning with lotto educational media can be used without revision. Components assessed are personnel, lotto components, lotto game process, lotto media output.

Table 4. Results of Model Design Validation by Experts

Validator	Score
I	30
II	29
Average	29.5

Furthermore, the guidebook and design of cooperative learning models with lotto educational media are validated by practitioners. The results of the manual book validation model of cooperative learning with lotto educational media by practitioners can be seen in table 5, while the results of design validation are cooperative learning models with lotto educational media by practitioners can be seen in table 6. The components assessed are the beginning, linguistic, presentation, and evaluation forms.

Table 5. Results of Guidance Validation by Practitioners

Validator	Score
I	83
II	84
Average	83.5

Based on the results of the guidebook validation by practitioners, it can be concluded that guidebook model cooperative learning with lotto educational media has very valid qualifications because it obtained a validation score of ≥ 69.

This means that the guidebook model of cooperative learning with lotto educational media can be used without revision. Components assessed are personnel, lotto components, lotto game process, lotto media output.

Table 6. Results of Model Design Validation by Practitioners

Validator	Score
I	31
II	30
Average	30.5

Based on the results of model design validation, cooperative learning models with lotto educational media by practitioners have very valid qualifications, because the results of the validation get a score of ≥ 25, which means that the design model of cooperative learning with lotto educational media can be used without revision. The maximum score that can be obtained from the manual validation is 88, while the maximum score that can be obtained for model design validation is 32.

Based on the results of the validation from the validator, in this case, experts and practitioners regarding the guidebook and model design of cooperative learning models with lotto educational media have achieved value with very valid categories. It can be concluded that the model of cooperative learning with lotto educational media is ready to be tested.

Hypothetic Model

Based on the results of validation, suggestions, and input from experts and practitioners generated a hypothetical model of a cooperative learning model with lotto educational media. In the hypothetical model, there are no fundamental changes to the content and procedures in the guidebook and model design. Changes made are only limited to more customized, clearer images, as well as more explicit vocabulary selection.

Small-Group Trial Activities

The trial was conducted in a small group, consisting of 15 early childhood in the Kindergarten Al-Ishlah Jepara in the 2017/2018 school year and two teachers at the school. This trial is to see the teacher's ability when applying a cooperative learning model with lotto educational media.

The results of the trial show that the teacher's ability to implement cooperative learning models with lotto educational media has an average value of 31 so that it has a very good category because it is in the score range of 31-40. Based on these results, it can be concluded that the cooperative learning model with lotto educational media is feasible to be applied and used in limited scale trials.

Limited Trial

The experimental group in this limited trial were teachers and early childhood at the Integrated Islamic Kindergarten Permata Insani Jamil, Jepara. This limited trial uses a large group of twenty students and two teachers. The limited test results show that the teacher's ability to obtain an average score of 32.4, which is included in the excellent category. This means that a model of cooperative learning with effective lotto educational media.

The Effectiveness of Lotto Educated Media Cooperative Learning Model

The results of the effectiveness of the experimental group are seen from 3 aspects, namely (1) improvement of social-emotional abilities in the experimental class, analyzed by paired sample t-test, (2) differences in social-emotional abilities between the experimental class and the control class, analyzed by the independent sample t-test, (3) analysis of

response data, a model of cooperative learning with lotto game media is declared practical if the respondent gives a positive response of at least 80% on average.

The determination of the analysis in the effectiveness test is based on a prerequisite test that is normality and homogeneity test. After the data tested were normal and homogeneous, then using parametric analysis. In the increased test using paired sample t-test analysis aims to determine whether there are differences in the average social-emotional ability at the beginning and end of students. The acceptance criteria if the significance value (α) obtained is ≥ 0.05 then H_0 is accepted. Based on table 7 obtained a significance value (α) = 0.000 <0.05, then H_0 is rejected. This means that there are differences in the average social-emotional ability of students between before and after learning by using cooperative learning models with lotto educative media or in the experimental class. This is clarified by looking at statistical data between social-emotional abilities at the beginning and end of the students presented in table 7.

Table 7. Statistical Data on Experimental Classes

| Data	Average	Deviation standard
Pre-test	17.5	1.47
Post-test	26	4.02

The average difference test aims to see whether there are differences in social-emotional ability between the experimental class and the control class; the analysis uses an independent sample t-test. The acceptance criteria if the significance value (α) obtained is ≥ 0.05, then H_0 is accepted. The following is the different test data presented in table 8.

Based on table 9 obtained a significance value (α) = 0.000 < 0.05, then H_0 is rejected. This means that the average emotional social abilities of experimental class students are more than the social-emotional abilities of control class students. The difference in average student social-emotional abilities can be seen in figure 1.

Table 8. Difference test

		t	df	Sig.	Average difference	Standard error difference	95% confidence interval	
							Lower	Upper
Final data	Variance is assumed to be the same	4.215	36	0.000	4.500	1.080	2.361	6.739

Figure 1. Average Differences between the Two Classes
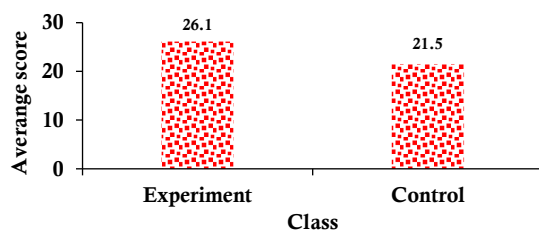
The results of these studies are following the results of Ali (2011) study which concluded that there were significant differences between students who used cooperative learning and not, on student learning outcomes, namely students who used better cooperative learning.

In the practicality test, seen from the response given by respondents regarding the learning provided. Respondents in this study were teachers and students. The results of the analysis of the response of teachers and students to the learning process are presented in table 9.

Table 9. Teacher and Student Responses

Respondents	Positive response (%)
Teacher	80
Students	85
Averange	82.5

Based on table 9 it can be seen that teachers and students give a positive response to learning by using a cooperative learning model with lotto educational media. It can be concluded that learning with a cooperative learning model with practical lotto educational media.

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CONCLUSION

Cooperative learning model with the developed lotto educational media is valid. This is based on the results of validation by experts and practitioners, has been revised on the advice and input of the validator to be more perfect, so it can be said that the model of cooperative learning with lotto educational media is ready to be tested.

There is an increase in the average initial social-emotional ability, and the end of students in the experimental class, and the average social-emotional competence of students in the experimental class is better than the control class. It can be said that the model of cooperative learning with lotto educational media is effective on social-emotional abilities.

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