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The Effectiveness of The Explore Knowledge Game in Improving Children's Interpersonal Intelligence
(Keberkesanan Explore Knowledge Game dalam Meningkatkan Kecerdasan Interpersonal Kanak-kanak)

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ABSTRACT

This research aims to assess the effectiveness of Explore knowledge games in improving children's interpersonal intelligence. Exploring knowledge game is an intervention module that uses interaction in play to enhance children's interpersonal intelligence. This research used a quasi-experimental method with 28 subjects aged between 8 and 10 years. The experimental design was a Pretest-posttest control group design with a grouping technique using randomization. Data was collected using observation and analysis techniques, such as the t-test and N-Gain Score. The results of the hypothesis test show differences between the control and experimental groups after the intervention. Based on this, the explore knowledge game effectively increases children's interpersonal intelligence.

Keywords explore knowledge game, interpersonal intelligence

ABSTRAK

Penyelidikan ini bertujuan untuk menilai keberkesanan explore knowledge game dalam meningkatkan kecerdasan interpersonal kanak-kanak. explore knowledge game ialah modul intervensi yang menggunakan interaksi dalam permainan untuk meningkatkan kecerdasan interpersonal kanak-kanak. Penyelidikan ini menggunakan kaedah eksperimen kuasi dengan 28 orang subjek berumur antara 8 hingga 10 tahun. Reka bentuk eksperimen adalah reka bentuk kumpulan pra-pasca ujian dengan teknik pengelompokan menggunakan rawak. Data dikumpul menggunakan teknik pemerhatian dan analisis, seperti ujian-t dan Skor N-Gain. Keputusan ujian hipotesis menunjukkan perbezaan antara kumpulan kawalan dan eksperimen selepas intervensi. Berdasarkan ini, explore knowledge game berkesan meningkatkan kecerdasan interpersonal kanak-kanak.

Kata kunci explore knowledge game, kecerdasan interpersonal

INTRODUCTION

Late childhood is a period of education, and children are ready to accept the demands of their environment (Jannah, 2015). Children can adjust to groups and carry out social interactions at this time. Late childhood is also called group age because children prefer to spend time with peers and play in groups (Kusumaningrum, 2019). Kupczyszyn and Oros (2021) explain that children gain many skills to manage their relationships with others in their interactions with groups of children. According to Pratiwi and Ayriza (2018), interpersonal intelligence is a person's potential to know himself and others, solve problems, and communicate well. Interpersonal intelligence is essential to help children adapt to their environment and make it easy for them to establish close relationships with peers (Heldisari, 2020). Undeveloped interpersonal intelligence can be seen in the child's ability to know themselves and build relationships with many others.

Observations on 20 elementary school students at one school in West Sumatra showed that 13 students liked to play alone and only played with certain groups, and some children chose friends and were reluctant to communicate with other friends. Then, after interviewing the teacher, information was obtained that some children were teasing, fighting, and disturbing their friends. Teachers hope that children at this age will like to play together, not be alone, and be able to respect each other when faced with problems. Based on the results of observations in the field, there is still a need to increase interpersonal intelligence in school children. One of the development methods that can be used is group games. This intervention is deemed appropriate because children actively play and explore in the final childhood phase. This training aims to increase a high sense of empathy so that children can become wise individuals.

Previous research by Putri et al. (2020) demonstrated that the treasure hunt game, which encourages interaction among children and between children and teachers, effectively enhances interpersonal intelligence. This research was inspired by the Treasure Hunt game, which was modified to be more interactive and entitled the Explore Knowledge game. Researchers developed this module to treat elementary school children and then tested its effectiveness in increasing interpersonal intelligence.

RESEARCH SIGNIFICANCE

This research offers insights to educators seeking solutions for enhancing children's interpersonal intelligence by proposing explore knowledge games as a viable alternative. This research can also contribute to psychological studies of child development related to interpersonal intelligence issues.

MATERIALS AND METHODS

The research uses a quantitative approach with quasi-experimental methods. The design used was a pretest-posttest control group design. The 28 participants were randomly assigned into two groups: the experimental and the control groups. The research participants were elementary school students aged 8 to 10 years. Data collection uses observations recorded using a tally based on emerging behaviour. The items used were taken from Anderson's theory, totalling 15 items.

Measurements were carried out before (pre-test) and after the intervention (post-test) using the same measuring instrument. Three observers carried out observations. The intervention was carried out after a pre-test for three days, and then after the treatment, a post-test was given. Observation is used to see the child's interpersonal intelligence when giving a pre-test, treatment, and post-test.

In this study, an observation sheet was used, which was prepared by researchers based on Ardeson's grand theory, Putri et al. (2020) and consisted of three aspects, including social sensitivity, social understanding, and social communication. There are six items for the social sensitivity aspect, five for the social understanding aspect, and four for the social communication aspect. One example of an item in the social sensitivity aspect is "Observing other people talking," one example of an item in the social understanding aspect is "Providing an opinion when needed," and one example of an item in the social communication aspect is "Able to convey back information obtained."

The process carried out during the observation, namely, the first day, consisted of a building rapport session, a pre-test session, and a social sensitivity session, "game fight over me." the building rapport session aimed to build communication between researchers and participants so that a relationship of mutual trust was established, the pre-test session aims to collect initial data. The social sensitivity session aims to train participants' sensitivity to their environment. The second day consisted of a follow-up session and a social understanding session, "follow my game," as well as a social communication session, "chain message game." the follow-up session aimed

to determine the extent of participants' knowledge regarding the activities carried out at the previous meeting, the social understanding session aims to increase participants' understanding of the information presented, and social communication sessions aim to improve participants' ability to communicate and convey back the information received, the third day consisted of a follow-up session, an explore knowledge game session, and a post-test session. The follow-up session aimed to determine the extent of participants' knowledge regarding the activities carried out at the previous meeting, the explore knowledge game session aimed to improve overall interpersonal intelligence, and the post-test session aimed to find out the final abilities of the participants.

Main Game Procedure "Explore Knowledge Game"

This game lasts 45 minutes on the school field. The materials used in this game are "blind maps", stickers and clues which researchers have provided. This game consists of five stages, namely (1) preparation stage, at this stage the researcher prepares the equipment (2) presentation stage, at this stage the researcher divides the experimental group participants into two small groups, gives instructions regarding the rules of the game, and distributes " blind map" and "clue" to participants, (3) remembering stage, at this stage participants are asked to discuss the "clue" that has been given and the researcher emphasizes listening to each other's opinions, (4) development stage, at this stage participants will solve the "clue" and find a hidden box containing stickers to be placed on the "blind map" and "clue" paper to look for the next box, if participants find the "zonk" sticker then they have to look elsewhere, at this stage it is also the second groups race to complete the "blind map" into a "perfect map", (5) evaluation stage, at this stage participants submit the "perfect map" that has been successfully completed, the group that finishes earlier will get a "clue" that directs them to find "treasure box".

FIGURE 1. Blind Map and Perfect Map

FIGURE 2. Sticker Zonk

FIGURE 3. Clue

Data Analysis

Data analysis used a t-test between groups, comparing the pre-test and post-test scores between the experimental and control groups using SPSS Statistics Version 25. Apart from that, the researcher also used the N-Gain Score percentage value obtained by the experimental group respondents to see the extent of improvement in interpersonal intelligence.

RESULTS AND DISCUSSION

This research assesses how effectively explore knowledge games improves late childhood interpersonal intelligence. Isdayanti et al. (2022) state that the scores from the pre-test and post-test sessions from the experimental and control groups should be compared by paying attention to the difference between the scores of the two groups. To see this difference, researchers can use the N-Gain Score formula.

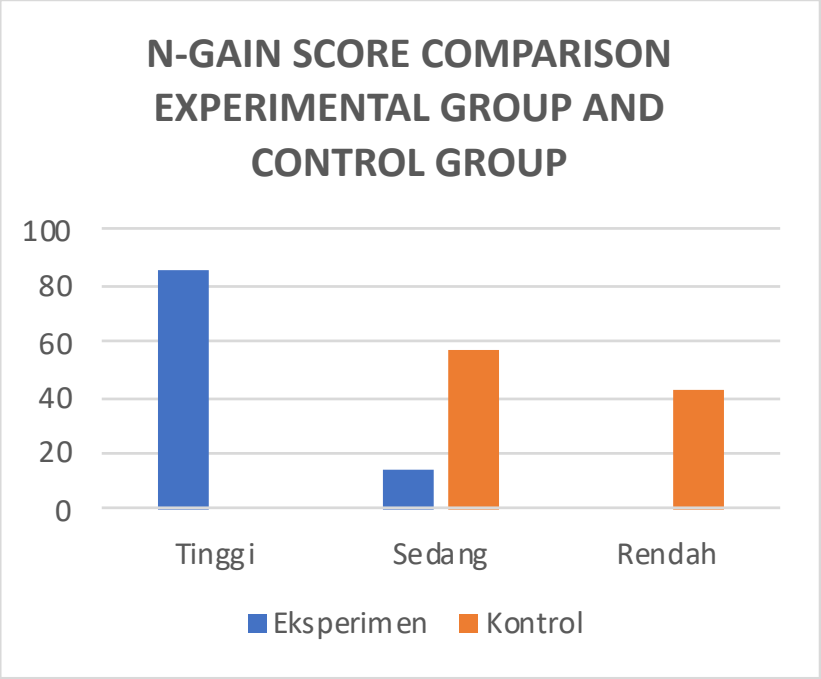

FIGURE 4. N-Gain Score Comparison

Figure 4 shows that most of the experimental group got high N-Gain Scores; a few got medium scores, while the control group got medium and low scores. This test shows that in the experimental group, there was a very significant difference in the participants' interpersonal intelligence levels before and after the training. Meanwhile, the control group showed no significant difference. This outcome aligns with research by Numiroh (2018) that significant results are indicated when the t-value from the table (t-table) exceeds the calculated t-value (t-count), as in 4.243 > 1.71387. Therefore, it can be concluded that the treasure hunt game effectively enhances the communication skills of fourth-grade elementary school children.

Data Analysis Hypothesis Testing

Hypothesis testing is a test to determine whether H1 (explore knowledge games are effective in improving interpersonal intelligence in late childhood) is accepted or rejected. The testing criteria used to see the difference between the two groups is if the significance value is <0.05. This test was carried out via SPSS with the test used, namely the independent sample t-test.

In Table 1, it can be explained that in the pre-test scores of the control group (KK) and experimental group (KE), there were independent sample t-test results of 0.669 < 2.064 and a value (2-tailed sig.) of 0.509 > 0.05. It can be interpreted that the pre-test score data on KE and KK have no significant differences. Meanwhile, the post-test score obtained was 11.067 > 2.064, and the value (2-tailed sig.) was 0.000 < 0.05. This can be interpreted as the post-test score data on KE and KK have significant differences. So, H1 is accepted, and H0 is rejected.

TABLE 1. Independent Sample t-test results

Levene's Test for Equality of Variances		t	Sig. (2-tailed)	Information
Pre-test	Equal variances assumed	0.669	0.509 > 0.05	The difference is not significant
	Equal variances not assumed	0.669	0.512 > 0.05	The difference is not significant
Post-test	Equal variances assumed	11,067	0.000 < 0.05	Significant differences
	Equal variances not assumed	11,067	0.000 < 0.05	Significant differences

N-Gain Score Test Data Analysis

Based on the results of calculating the N-Gain score in the experimental group in Table 2, it was found that there was an increase in interpersonal intelligence in the participants after being given training in the form of a game called the explore knowledge game. This increase was obtained from observations of 14 participants in the field. ATZ got a score of 0.87, which is categorized as high. This is because ATZ experienced significant development in the aspect of social responsiveness. This can be seen when, previously, ATZ tended not to pay attention when someone was talking and tended not to care about their friends. However, after

TABLE 2. N-Gain Score Experimental Group

Experimental Group			
N No	Participant	N-Gain Score	Category
1	ATZ	0.87	High
2	AF	0.74	High
3	ARN	0.56	Moderate
4	AGS	0.96	High
5	ALCH	0.40	Moderate
6	BDNR	0.86	High
7	DA	0.74	High
8	DAR	0.95	High
9	END	0.74	High
10	KME	0.81	High
11	MBM	0.94	High
12	RAW	0.91	High
13	RTS	0.84	High
14	RACK	0.98	High

training, ATZ became a participant who appreciated interlocutors and could work with other friends. Improvements also occurred in the second aspect, namely social understanding. After being given ATZ training, they were able to express personal opinions. They were able to solve problems, such as puzzles in games. AF scored 0.74, which is categorized as high because AF experienced development in three aspects of interpersonal intelligence. It can be seen in the field that AF was previously a participant who did not want to speak in front of the class, was always silent when asked, and only played with some of his theme after being given AF training to become children who dare to express their opinions in front of the class and want to communicate with all their classmates.

ARN scored 0.56 because ARN experienced significant development in two aspects of interpersonal intelligence. This shows that ARN was able to work with his friends in completing the game, respected the theme when speaking, was also able to convey his opinion, and was quiet. This is significant in the social understanding because ARN still needs clarification about understanding the game. AGS scored 0.96, which is categorized as high because AGS experienced development in three aspects of interpersonal intelligence. This can be seen in the field where AGS is an active participant, able to work together with his friends, direct his friends, and show respect when other people are expressing their opinions.

ALCH got a score of 0.40, which is categorized as moderate. This is because ALCH has experienced significant development in two aspects of interpersonal intelligence. This shows that ALCH has been able to work together with his friends in completing the game, respects his theme when speaking, and is also able to convey his personal opinion. This is quite significant in social understanding because ALCH still needs clarification about understanding the game, so if confused, ALCH chooses not to participate. BDNR received a score of 0.86, which is categorized as high, and this is because BDNR experienced development in three aspects of interpersonal intelligence. This can be seen in the field that BDNR is a participant who can work with his friends, solve problems together, actively communicate with his friends, and appreciate when someone else is talking. DA got a score of 0.74, which is categorized as high. This is because DA experienced development in three aspects of interpersonal intelligence. This can be seen in the field where DA is a participant who can work with his friends, solve problems together, actively communicate with his friends, and appreciate it when other people express their opinions.

DAR received a score of 0.95, which is categorized as high. This is because DAR has experienced development in three aspects of interpersonal intelligence. This can be seen in the field where DAR is a participant who actively communicates with his environment, works together with his friends, directs his friends, and respects other people when he expresses his opinion. END scored 0.74, which is categorized as high because END experienced development in three aspects of interpersonal intelligence. This can be seen in the field where END is a participant who can work with his friends, solve problems together, actively communicate with his friends, and appreciate it when other people express their opinions. KME scored 0.81, categorized as high because KME experienced development in three aspects of interpersonal intelligence.

This can be seen in the field where KME is a participant who can work with his friends, solve problems together, actively communicate with his friends, and appreciate it when other people express opinions. MBM scored 0.94, which is categorized as high because MBM experienced development in three aspects of interpersonal intelligence. This can be seen in the field where MBM is an active participant, able to work with and direct friends and show respect when other people express their opinions. RAW got a score of 0.91, which is categorized as high; this is because RAW experienced significant development in the aspect of social responsiveness. This can be seen when previously given training, and RAW tended not to pay attention when someone was talking and tended not to pay attention to their friends. However, after RAW was given training, RAW became an active participant. Being able to respect the person RAW is talking to and working with other friends also caused improvements in the second aspect, namely social understanding. After being given RAW training, the student was able to express personal opinions and were able to solve problems such as being able to solve puzzles in games.

RTS got a score of 0.84, which is categorized as high. This is because RTS experienced development in three aspects of interpersonal intelligence. This can be seen in the field where RTS is a participant who can work with his friends, solve problems together, actively communicate with his friends, and appreciate when someone else is speaking forward. RAK received a score of 0.98, which is categorized as high, and experienced development in three aspects of interpersonal intelligence. This can be seen in the field as a participant who actively communicates with his environ ment, works with his friends, directs his friends, communicates actively, and appreciates when other people are speaking his opinion.

TABLE 3 . N-Gain Score Calculation Results

		Mean	Minimum	Maximum	Information
N-Gain Score	Experiment	80.7060	39.76	97.50	Effective
	Control	30.4063	24.69	38.82	Not Effective

TABLE 4 . N-Gain Score effectiveness category

Percentage (%)	Information
< 40	Not Effective
40 – 55	Less Effective
56-75	Quite Effective
>76	Effective

The n-Gain Score calculation in Table 3 shows each group's mean, minimum, and maximum values. The mean value in the experimental group was 80.7%, which was categorized as effective with a minimum N-Gain Score value of 39.8% and a maximum value of 97.5%. Meanwhile, the mean value in the control group was 30.4%, which was categorized as ineffective, with a minimum N-Gain Score value of 24.7% and a maximum value of 38.8%.

So, explore knowledge games has proven effective in increasing interpersonal intelligence in late childhood. The effectiveness of using the explore knowledge game is strengthened by previous research conducted by Putri et al. (2020), explaining that the treasure hunt game can effectively increase interpersonal intelligence because it allows children to interact with their peers and teachers. This is also supported by the results of research by Sahidun (2018), which stated that there was an increase in interpersonal intelligence in group A of Titian Kasih PAUD children after being given traditional games with an increase of 10.37% so this could cause children to be able to interact with peers. Actively and also communicate well. However, this research modified the treasure hunt game into a new game innovation called the explore knowledge game.

Many online games have emerged among children in the increasingly developing digital era. However, gadgets will reduce children's interaction with their environment (Pebriana, 2017) . Meanwhile, to develop interpersonal intelligence, they need to interact, communicate well, understand the environment, and be sensitive to the circumstances around them. Traditional games are the most influential media to develop this ability because they can quickly encourage children to make friends, interact, and socialize well (Ningsih, 2016). Traditional games, such as explore knowledge games, allow participants to interact, work together to find answers to various clues, be sensitive to the conditions around them, and train participants' communication to convey and receive information well.

This research aligns with previous research conducted by (Putri et al., 2020), which aims to see whether traditional games, such as explore knowledge games, effectively increase children's interpersonal intelligence. In this research, several types of traditional games were carried out, with the main game being an explore knowledge game that uses the treasure hunt principle where participants will be trained to solve clues, work together to find prizes, convey information correctly to teammates, and understand information conveyed by friends. Traditional games were chosen because they allow participants to interact directly with each other, thus further strengthening their cooperation skills, social sensitivity, and good communication. This research is also supported by the results of previous research by Waluyo et al. (2017), which states that traditional games can improve children's ability to understand what others feel and say. Research conducted by (Saputra & Ekawati, 2017) also proves that traditional games can develop children's interaction, communication, and teamwork abilities.

CONCLUSION

This research aims to assess whether explore knowledge games effectively improves interpersonal intelligence in late childhood. Regarding the results, it has been proven that the participants' interpersonal intelligence increased because the experimental group's N-Gain Score was more significant than the control group. The experimental group had an N-Gain Score percentage of 80.7%, which could be categorized as effective. Meanwhile, the control group had an N-Gain Score percentage of 30.4%, which was categorized as ineffective. Then, the hypothesis results state that H0 is rejected and H1 is accepted because the significance value is 0.000 < 0.05. So, explore knowledge game training has proven effective in improving interpersonal intelligence in late childhood.

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