

## Conference Paper

# The Effectiveness of Simulation Games in Improving Interpersonal Communication among the Scouts of SMAN 1 Wanadadi Banjarnegara

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**ORCID:**Faishal Ridlwan: <https://orcid.org/0000-0001-5782-1123>**Abstract**

A game simulation can help to improve interpersonal communication skills when the game involves interaction in groups. The lack of communication between the scouts of SMAN 1 Wanadadi Banjarnegara results in activities not running as planned. This study aimed to investigate how interpersonal communication among these scouts could be improved through simulation games. The study employed an experimental method with a quantitative approach and pre-experimental design. The research subjects included nine scouts with the lowest level of interpersonal communication skills. The results showed that there was a difference in the scouts' interpersonal communication before and after the simulation games were implemented. The average score of the scouts' interpersonal communication was higher after they played the simulation games ( $106.67 > 94.33$ ), and this difference was statistically significant. This showed that there was a significant increase in the interpersonal communication skills of scouts after they participated in the simulation games.

**Keywords:** interpersonal communication, simulation games

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## 1. Introduction

The National Education System Law Number 20 of 2003 states that education is a conscious and planned effort to create a learning situation and process that can encourage students to actively develop their potentials, personalities, noble characters, and skills needed by themselves, the society, and the nation [1]. Simulation games provide students with valuable experiences related to how communication skills should be built. Simulation games require students to actively use cognitive, affective and psychomotor domains. Simulation games lead to better learning process as games provide opportunities for students to understand their classmates, various abstract concepts, and the real world around them [2].

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Interpersonal communication occurs when two people convey messages reciprocally. In the establishment of a relationship, interpersonal communication processes must be carried out in six steps: desire to communicate, e-coding by the communicator, the sender of the message, the recipient of the message, decoding by the communicant, and feedback [3].

The results of observation and interviews conducted in SMAN 1 Wanadadi Banjarnegara indicated that the problem in the scouting organization is the lack of communication among the board members of rover and ranger council, causing the failure at running activities according to plans. Besides the communication problems, other problems were found to decrease the interest of the successors of the rover and ranger council, such as students' mental problems, personalities, and awareness of the importance of joining a scouting organization. Some of the things they have done include asking for directions from tutor, seniors, and external tutor, but this has not produced the maximum effect. However, the researchers focused only on the interpersonal communication problems in the scouting organization of SMAN 1 Wanadadi Banjarnegara.

## 2. Related Works/Literature Review

Interpersonal communication is a face-to-face interaction between two or more people where the sender can directly convey a message and the recipient can receive and respond to it directly [4].

Interpersonal communication is a face-to-face communication that allows each participant to capture others' both verbal and non-verbal reactions directly [5].

The terms "play" and "game" have different meanings in the literature of play therapy. Play is a behavior done naturally by humans and animals. Play is also a voluntary and spontaneous activity that has no specific end point or purpose. Play is intrinsically driven by a desire to have fun [6].

Play refers to an activity done to purely have fun without seeking the winner and the loser. However, game is an activity done to have enjoyment and satisfaction, but is characterized by producing the winner and the loser [7].

*Pramuka* (scouting) is an acronym for *Praja Muda Karana*, young people willing to work. The term *Pramuka* has been officially used in Indonesia since 1961 [8].

Games are a suitable technique for learning social skills, especially in developing interpersonal communication. Through games a relaxed and pleasant atmosphere is created, so that it will make it easier to solve problems, make decisions, plan things and communicate well in the sense of strengthening personality [9].

Vincentius Wishnu Adhityaputra and Ipah Saripah (2015) studied the effectiveness of game techniques in improving the interpersonal communication skills of the high school teenagers at RPSAA (Children's Social Protection House) Ciumbuleuit, Bandung.

The results of the study showed that there were differences between the pretest and posttest scores, suggesting a significant increase in the interpersonal communication skills of the high school teenagers of RSPAA Ciumbuleuit Bandung. The high category of interpersonal communication skills of the high school teenagers of RSPAA in Ciumbuleuit Bandung indicates that the teenagers are able to achieve the optimal levels of interpersonal communication in every aspect, proven by their ability to convey both verbal and non-verbal messages to friends living in SPSAA on daily social interactions in the aspects of openness, empathy, reassurance, positivity, and equality [6].

Anita Dewi Astuti, Sugio, and Suwarjo (2013) conducted a study on a model of game-technique group guidance service to improve students' interpersonal communication skills.

The results of the study showed that the goal of the model of game-technique guidance group service was accomplished, marked by the increase of interpersonal communication skills of the eighth graders of SMP Muhammadiyah 1 Melati Sleman Yogyakarta after the students received the group guidance with a technique of games. The results of the Independent Sample T-Test showed that the t-score was 4.734 and its significance was 0.00 ( $p < 0.05$ ); the average post-test score of the experimental group was 137.83, slightly higher than that of the control group. These results suggested that the model of game-technique group guidance service was effective to enhance students' interpersonal communication skills. The results of the study support the view of games from Respati and Lengkong (2018: 8), who stated that "the learning method only through lectures, although often equipped with audio visuals such as videos, is not optimal compared to the learning method involving games" [7].

### 3. Material & Methodology

#### 3.1. Data

The data of the study were collected through a questionnaire-based pretest; 9 students were found to have the lowest results and given simulation games before the posttest.

### 3.2. Method

The study employed an experimental method. Experiment is a method to find out a causal relationship between two variables deliberately manipulated by researchers by eliminating, reducing, or separating any extraneous variables [10]. An experimental study is conducted to understand a phenomenon in the framework of a cause-effect relationship, by giving treatments to the research subject and observing the impacts of the treatments by controlling the extraneous variables [11].

The study was pre-experimental with a one-group pre-test-post-test design because there was only one group in this study that is the experimental group. Before the treatment was given, the group took the pretest. Then, it took the posttest to determine the condition of its condition after the treatment [11]. Before conducting the pretest, the researchers concluded that their interpersonal communication was not good both in terms of performance and knowledge, this could be seen from the results of the preliminary study questionnaire analysis, observation and interviews.

### 3.3. Equations and Mathematical Expressions

Based on the table above, it can be seen that:

$$N = 9$$

$$Md = 12.33$$

$$\sum X^2d = 144.001$$

Thus, the t-test score was:

$$t_{\text{test}} = \frac{Md}{\sqrt{\frac{\sum X_d^2}{N(N-1)}}}$$

$$t_{\text{test}} = \frac{12,33}{\sqrt{\frac{144,001}{9(9-1)}}}$$

$$t_{\text{test}} = \frac{12,33}{\sqrt{\frac{144,001}{9(8)}}}$$

$$t_{\text{test}} = \frac{12,33}{\sqrt{\frac{144,001}{72}}}$$

$$t_{\text{test}} = \frac{12,33}{\sqrt{2,0}}$$

$$t_{\text{test}} = \frac{12,33}{1,414} = 8,721$$

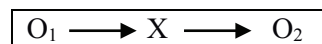
## 4. Results and Discussion

### 4.1. Results

The calculation results showed that the H<sub>0</sub> was rejected, indicating that the scouts' interpersonal communication increased after the technique of simulation games was given to the scouts of SMAN 1 Wanadadi Banjarnegara. This shows that the technique of simulation games is effective to improve interpersonal communication skills of the SMAN 1 Wanadadi Banjarnegara scouts.

### 4.2. Statement of Results

The following is the model of the one-group pretest—posttest design used by the researchers.



**Figure 1:** Research Design

Note:

O<sub>1</sub>: the pretest score (before treatment)

O<sub>2</sub>: the posttest score (after treatment)

The subjects of the current research were the structural members of the scouting organization of SMAN 1 Wanadadi Banjarnegara. The sample of the study was 9 structural members with the lowest pretest scores. The increase of interpersonal communication in the scouts of SMAN 1 Wanadadi Banjarnegara can be visually seen in the graph below:

Figure 2 suggests that the posttest scores are higher than the pretest scores. The interpersonal communication scores were higher after the implementation of simulation games than before the implementation of simulation games, indicating an increase of interpersonal communication after the simulation games were involved.

It can be concluded that after testing the hypothesis, the degree of freedom (db) was  $n-1=9-1=8$  with the significance level ( $\alpha$ ) = 5% and the t-table score = 2.306. H<sub>0</sub> is rejected if the t-test score > 2.306, but H<sub>0</sub> is accepted if the t-test score  $\leq$  2.306. The calculation of the t-test score in this study can be seen in the table below.

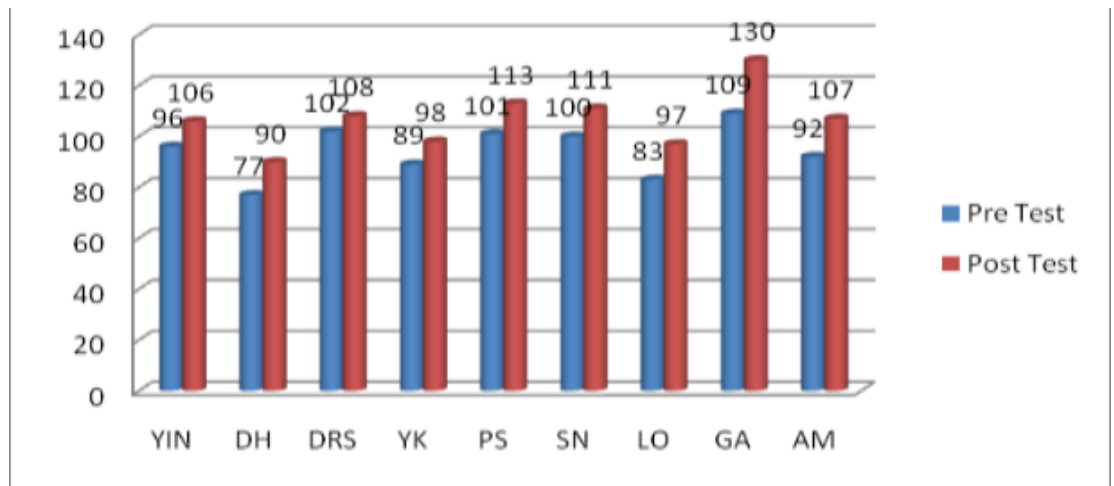


Figure 2: Graph of Changes in the Interpersonal Communication Scores

### 4.3. Explanatory text

Those 9 students were given a treatment called the simulation game service, aimed to enhance their interpersonal communication skills. Results of the posttest on the interpersonal communication of the scouts of SMAN 1 Wanadadi Banjarnegara are presented in the table below.

TABLE 1: Description of Changes in the Interpersonal Communication Skills

No	Subject	Pretest Score	Category	Posttest Score	Category	Gain
1.	YIN	96	Moderate	106	Moderate	11
2.	DH	77	Low	90	Moderate	13
3.	DRS	102	Moderate	108	Moderate	6
4.	YK	89	Moderate	98	Moderate	9
5.	PS	101	Moderate	113	Moderate	12
6.	SN	100	Moderate	111	Moderate	11
7.	LO	83	Low	97	Moderate	14
8.	GA	109	Moderate	130	High	21
9.	AM	92	Moderate	107	Moderate	15
Total		849	Moderate	960	Moderate	111
Mean		94.33		106.67		12.33

The table above shows that the interpersonal communication scores increased after the simulation games were performed. Before the simulation games were carried out, the empirical mean score of interpersonal communication was 94.33. However, the average score increased by 12.33 points to 106.67 points after the implementation of simulation games. The students with the lowest and highest increase in interpersonal communication were DRS with 6 points and GA with 21 points respectively. The increase

in interpersonal communication of the SMAN 1 Wanadadi Banjarnegara scouts can be visually seen in the following graph.

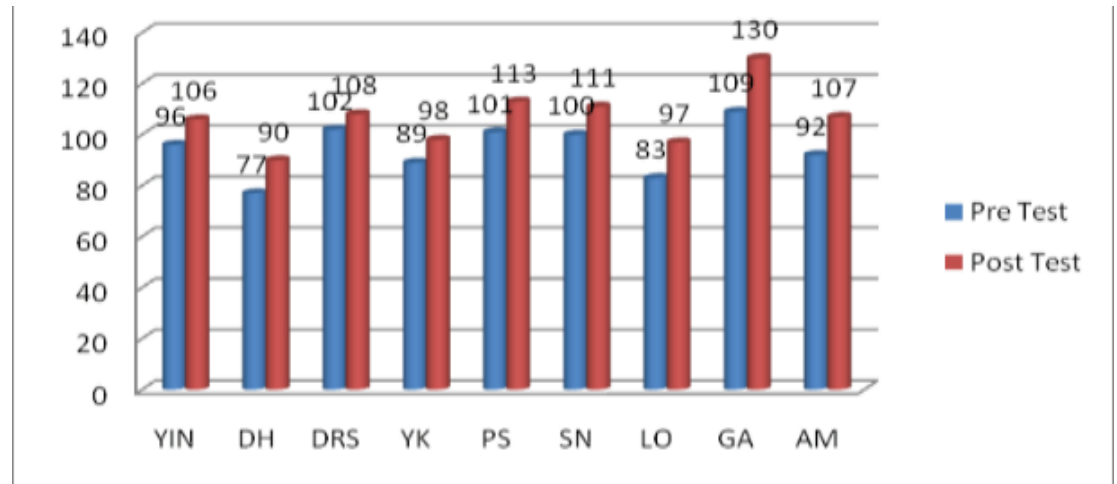


Figure 3: Changes in the Interpersonal Communication Scores

Figure 2 suggests that the posttest scores are higher than the pretest scores. The interpersonal communication scores were higher after the implementation of simulation games than before the implementation of simulation games, indicating an increase of interpersonal communication after the simulation games were involved.

It can be concluded that after testing the hypothesis, the degree of freedom (db) was  $n-1=9-1=8$  with the significance level ( $\alpha$ ) = 5% and the t-table score = 2.306.  $H_0$  is rejected if the t-test score  $> 2.306$ , but  $H_0$  is accepted if the t-test score  $\leq 2.306$ . The calculation of the t-test score in this study can be seen in the table below.

TABLE 2: Calculation of the t-test Score

No	Name	Pretest	Posttest	Gain	Xd = Md-Gain)	X <sup>2</sup> d
1	YIN	96	106	10	2.33	5.429
2	DH	77	90	13	-0.67	0.449
3	DRS	102	108	6	6.33	40.069
4	YK	89	98	9	3.33	11.089
5	PS	101	113	12	0.33	0.109
6	SN	100	111	11	1.33	1.769
7	LO	83	97	14	-1.67	2.789
8	GA	109	130	21	-8.67	75.169
9	AM	92	107	15	-2.67	7.129
Total		849	960	111		144.001
Average		94.33	106.67	12.33		

#### 4.4. Discussion

The results of the current study are in line with the researchers' expectations. Based on the calculation of the t-test score,  $H_0$  was rejected, indicating an increase in interpersonal communication after the implementation of the simulation game technique. The results of this study's analysis suggest that scouts' interpersonal communication skills improved after the simulation games were carried out. The average interpersonal communication score of the scouts of SMAN 1 Wanadadi Banjarnegara was higher after they performed simulation games ( $106.67 > 94.33$ ). The t-test score was 8.721, higher than the t-table score 2.396 with the significance level ( $\alpha$ ) = 5%, which is different at the  $H_0$  rejection area. This shows a significant increase in the scouts' interpersonal communication after they participated in the simulation games. Games are a suitable technique for learning social skills, especially in developing interpersonal communication. Through games a relaxed and pleasant atmosphere is created, so that it will make it easier to solve problems, make decisions, plan things and communicate well in the sense of strengthening personality. In line with the study by Vincentius Wishnu Adhityaputra and Ipah Saripah (2015) on the effectiveness of game techniques in improving the interpersonal communication skills of the high school teenagers at RPSAA (Children's Social Protection House) in Ciumbuleuit Bandung, it can be concluded that simulation games can help students improve their interpersonal communication skills. If further research finds a gap in the results of the current study, it is due to the differences in time and research subjects.

#### 5. Conclusion

Simulation games help improve interpersonal communication skills because they can change students' behaviors and stabilize students' emotions. When playing simulation games, students can perform various roles, express feelings, express themselves in non-threatening situations, and pay attention to others. Through simulation games, students can learn to respect others' rights, comply with existing rules and communicate effectively with others. The improvement of interpersonal communication can be achieved more optimally if the supporting factors, such as the scoutmasters and school principals, play an active role in the implementation of simulation games. In this study, however, the simulation games were carried out only by the current researchers and assisted by the guidance and counseling teachers, resulting in the less optimal improvement of interpersonal communication among the scouts. It is hoped that this study can provide



insights into simulation games for students or scouts who experience difficulties in improving interpersonal communication. Guidance and counseling teachers should collaborate with scoutmasters on the scouts' interpersonal communication development. The scouts are suggested to maintain and improve their interpersonal communication skills by practicing them on a daily basis. Furthermore, this study is hoped to be used as a reference by future researchers that in turn will develop this area of the research.

## Acknowledgement

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