The Influence of Role Playing and Simulation Learning on Critical Thinking Ability and Student Character Building

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Abstract: This study aims to determine how learning to play roles and simulations affects critical thinking skills and student character building. This study is quantitative and of the quasi-experimental variety. 38 MTsN 1 Palu City ninth graders were employed in this study. Data were gathered for this study using observation sheets for students' character development during the learning process and exams in the form of descriptions of critical thinking abilities. Descriptive and inferential statistics are used in the data analysis for this study. The study's findings demonstrate a considerable impact of simulation and role-playing learning models on students' critical thinking abilities. Students in the experimental class who were instructed using simulation and role-playing learning models scored, on average, better than those in the control class. The ability of students to formulate the main issues is the best sign of critical thinking abilities. The study's findings also demonstrate a considerable impact of simulation and role-playing learning techniques on student character development. Students in the experimental class who were instructed using role-playing learning simulations and models had an average value of character-building observations greater than those in the control class. Religious and creative activities are the best predictors of character development.

Keywords: Character building; Critical thinking ability; Learning role play and simulation

Introduction

Education is the acquisition of a group of people's information, abilities, and behaviors passed down from one generation to the next through instruction, training, or study (Dichev & Dicheva, 2017; Toquero, 2020). Education will create better human beings from time to time, with their respective abilities which also develop as long as they learn certain things. The purpose of national education is to uplift the life of the country and cultivate the full person, specifically those who have high moral principles, a belief in and a devotion to God Almighty (Raja & Nagasubramani, 2018; Simonson et al., 2019). Although instruction is frequently provided by others, it is also feasible to learn independently (Perraton, 2020).

Learning moral beliefs is expected to provide knowledge and guidance to students so that they want to appreciate and practice Islamic teachings about morality, both related to the relationship between humans and God, humans with themselves, and humans with their environment (Tabroni et al., 2022; Waqfin & Jannah, 2021). The goal and significance of morality education in these schools align with the needs of 21st-century learning. Learning in the 21st century integrates technology mastery, knowledge, literacy, and other skills and attitudes (Dakhi et al., 2020; Maimun & Bahtiar, 2022; Silber-Varod et al., 2019). The demands of 21st Century learning are the achievement of 21st century competencies. This 21st century competence is the main focus for increasing the capacity of students entering the 21st century (Coenen & Haegel, 2017; Mishra & Mehta, 2017). 21st century learning is a way to

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realize the fulfillment of these competencies to solve problems. With the addition of skills roles, 21st Century competence is known as 6C, namely character, citizenship, creativity, collaboration, communication, and critical thinking (Bahtiar et al., 2022; Paul & Elder, 2019).

Being able to make decisions by reflecting and using logic is a critical thinking skill. ability Critical thinking makes students able to look at things from various sides (Changwong et al., 2018; Fuad et al., 2017). Students who have critical thinking skills are more easily accepted by students' others in groups. The results of observations and interviews conducted at one of the junior high schools in Palu show that the average student's critical thinking skills are still lacking. Students still have difficulty expressing problems by giving critical reasons. In addition, students have not been able to think rationally and see problems objectively so that the results obtained are biased and do not match the reality.

Additionally, to the development of pupils' critical thinking abilities, kids also need to be strong in their character. Character formation is the result of understanding the relationship that every human being experiences, namely the relationship with oneself, with the environment, and with God (Hermino & Arifin, 2020; Pradana et al., 2020). The formation of character in a person will occur through a learning process throughout his life. So, in other words, a person's character is not innate since he was born, but is formed due to a learning process from the family environment and the people around him. The results of observations and interviews conducted show that the character of students has experienced a tremendous setback. It was acknowledged that the behavior of a group of students reflected actions far from good character (Jinping, 2017). The rise of brawls between groups of students, truancy, smoking, bullying, and other misbehavior is also a behavior that is contrary to the moral values that are learned in the learning of moral principles.

Therefore, it is necessary to design learning in such a way that can facilitate students to be able to think critically and form the character of students. One of the things that can be done by educators is the application of role-playing and simulation learning. Role-playing and simulation learning models are methods used in the learning process by providing a topic/problem that is solved by students by playing a role in this case related to learning (Hammer et al., 2018; Wen et al., 2019). Learning through simulation and role playing can help students develop skills including communication, cooperation, and event interpretation. In order to examine feelings, attitudes, values, and problem-solving techniques together, students aim to investigate human connections through role acting and discussion (Barrera et al., 2021; Tipmontree & Tasanameelarp, 2018).

Based on the aforementioned description, the researcher is interested in performing study with the title he Effect of Role Playing and Simulation Learning on Critical Thinking Ability and Student Character Building in order to learn the partial effects of the application of role playing learning and simulation on students' critical thinking skills and character development.

Method

Types of research

Quantitative research using a quasi-experimental design is the method utilized in studies on how role playing and simulation might improve students' critical thinking abilities and character development. Due to the nature of quasi-experimental research, random sampling was not used (Tobi & Kampen, 2018). The research design can be seen in Table 1.

Table 1. Research design

Group	Pretest	Treatment	Postest
Experimental	O_{11}	Role Playing and Simulation Learning Models	O_{12}
Control	O_{21}	Conversion	O_{22}

Research Stages

This research was conducted from January 2023 to February 2023. In this study there were several stages carried out, the researcher made initial observations to find out the characteristics of the students, the researcher chose the sample used, the researcher compiled learning tools based on role-playing and simulation learning models, compiling instruments for testing critical thinking skills and observation sheets for the formation of student character, Researchers administering pretests to the experimental class and control class, researchers conducting simulations and role-playing learning models for the experimental class' four meetings, and traditional learning models for the control class' four meetings, researchers observing character development in both classes, researchers conducting posttests in both classes, researchers analyzing data, and researchers synthesizing the results.

Research sample

The students who took part in the study serve as the research sample. 38 students from MTsN 1 Palu City's ninth grade made up the sample for this study. The following table lists the traits of the pupils who were used.

Table 2. Characteristics of Learners

Respondent Characteristics	Frequency	Percentage (%)
Gender		
Female	23	60.5
Male	15	39.5
Sum	38	100.0
Age		
<15 Years Old	6	15.8
15-17 Years Old	32	84.2
>17 Years Old	0	0.0
Sum	38	100.0
Origin Middle School level		
SMPN	12	31.6
MTSN	10	26.3
SMPS	9	23.7
MTS	5	13.2
Islamic Boarding School	2	5.3
Sum	38	100.0
Learning Style		
Visual	10	26.3
Auditory	19	50.0
Kinesthetic	9	23.7
Sum	38	100.0

Data Collection Techniques

Researchers employ several approaches for gathering data for their studies. The researcher employed a description of ten numbers as a test instrument for this investigation. During the learning process, character formation data is gathered using observation sheets.

Data analysis Technique

Researchers utilize the data analysis approach as a means to examine research data. In this study, data analysis was done using both descriptive and inferential statistics. t test, normalcy, and inferential statistics employing the homogeneity test.
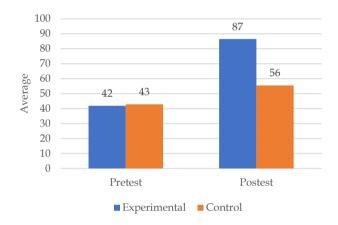
Result and Discussion

Result

Descriptive and inferential statistics were used to process the data in this study to get the findings. The research's findings are presented as data on students' critical thinking skills and character development. The findings of the investigation are described below.

Critical thinking ability

The findings of the study on students' critical thinking skills include average scores, an examination of such capabilities using indicators, and the outcomes of inferential statistical tests. Below are the results of the students' critical thinking skills based on the average value.

Figure 1. Comparison of Experiment Class and Control Class CTAB

The average scores obtained by the experimental class and the control class during the pretest were nearly identical, measuring 42 and 43, as shown in Figure 1 above. The experimental class' average score on the posttest was 87, compared to the control class' average score of 56. Below are also the findings of the analysis of pupils' critical thinking skills based on suggestions.
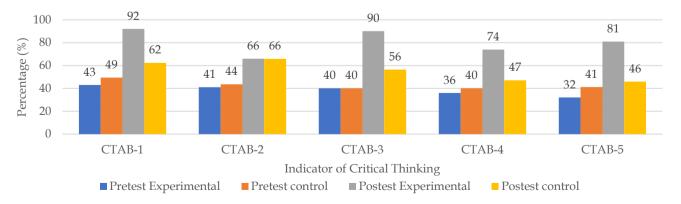

Figure 2. Comparison of CTAB Based on Indicators of Experimental Class and Control Class

The CTAB percentage of pupils for each indicator is different, as shown in Figure 2. All indications nearly received the same proportion for the experimental class and the control class on the CTAB pretest. The percentage of each indicator for the two classes at the time of the posttest was different. The CTAB-1 indication received a percentage of 92, the CTAB-2 indicator a percentage of 66, the CTAB-3 indicator a percentage of 90, the CTAB-4 indicator a

percentage of 74, and the CTAB-5 indicator a percentage of 81 in the experimental class.

The CTAB percentage for the CTAB-1 indicator is 62, for the CTAB-2 indicator it is 66, for the CTAB-3 indicator it is 56, for the CTAB-4 indicator it is 47, and for the CTAB-5 indicator it is 46, according to Figure 2. The data from the outcomes of statistical analysis using the independent sample t-test are shown below.
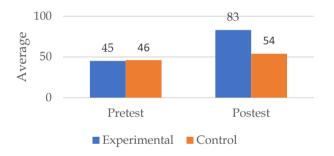
Table 3. Output Independent Samples Test

		Levene's Test for Equality of Variances							t-test for Equality of Means	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Critical Thinking Ability	Equal variances assumed	.569	.456	18.221	36	.000	30.244	1.660	26.878	33.611
	Equal variances not assumed.			18.356	35.971	.000	30.244	1.648	26.903	33.586

The significance value for Levene's Test for Equality of Variances is 0.456, which is known from Table 3 above. When this number exceeds 0.05, it indicates that there is no significant difference in the variance of the data between the experimental class and the control class. The 2-tailed Significance value is 0.000, as seen in Table 3. This number is below 0.05. Therefore, it may be inferred that there is a significant difference between the average critical thinking skills of experimental class students and the critical thinking abilities of control class students as the basis for decision-making in the independent sample t-test.

Character Building

Student character building data is presented in the form of the average value of the results of observations, the percentage of each character formation indicator, and data from inferential statistical analysis. The following presents a comparison of the average scores of the experimental class and the control class during the pretest and posttest.

Figure 3. Comparison of the Character Formation of the Experimental Class and the Control Class

Based on Figure 3, it is known that the experimental classes and the control class' average pretest scores are nearly identical, at 45 and 46. In contrast, the control class's average posttest score is 54, while the experimental class's average score is 83. The outcomes of character formation study based on indications are also shown in the data below.
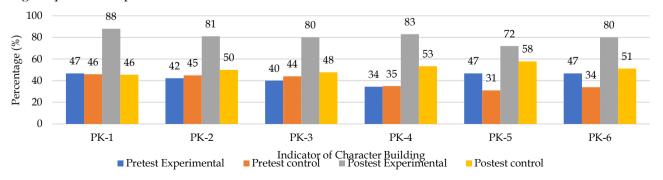

Figure 4. Comparison of Character Formation Based on Indicators of Experimental Class and Control Class

Based on Figure 4, it is known that students in the experimental class and control class achieved nearly identical percentages of indicators during the pretest. While at the posttest, the experimental class obtained PK-1 indicator percentages of 88%, PK-2 indicator percentages of 81%, PK-3 indicator percentages of 80%, PK-4 indicator percentages of 83%, PK-5 indicator percentages of 72%, and PK-6 indicator percentages of 80%. While the percent of PK-1 indicators in the control class is 46%, PK-2 indications are 50%, PK-3 indicators are 48%, PK-4 indicators are 53%, PK-5 indicators are 58%, and PK-6 indicators are 51%, the percentage of PK-1 indicators in the control class is 46%. The outcomes of statistical analysis using the Independent Samples T-test are also shown below (Table 4).

Table 4. Output Independent Sample T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Character Building	Equal variances assumed	14.972	.670	11.693	36	.000	29.113	2.490	24.063	34.162
	Equal variances not assumed			12.140	26.224	.000	29.113	2.398	24.185	34.040

The significant value for the Levene's Test for Equality of Variances is 0.670, as shown in Table 3 above. When this number is more than 0.05, there is no appreciable difference in the variance of the data between the experimental class and the control class. The 2-tailed Significance value is 0.000, as seen in Table 3. This number is below 0.05. Therefore, it may be argued that, as the foundation for the Independent sample t-test decision, there is a substantial difference between the average character formation of experimental class students and that of control class students.

Discussions

The aim of this study is to ascertain how role playing and simulation learning affect students' capacity for critical thought and the development of moral character. 38 MTsN 1 Palu City students in the nineth grade participated in this study. Character development and critical thinking abilities are the variables this study measures.

Critical Thinking Ability

The capacity for introspective thought and logical reasoning is known as critical thinking ability (Bahtiar & Ibrahim, 2022). The indicators of critical thinking skills used in this study are: formulate the main issues (CTAB-1); disclose existing facts (CTAB-2); choosing logical arguments (CTAB-3); detecting bias with different viewing angles (CTAB-4); and draw conclusions (CTAB-5) (Ennis, 2018).

The outcomes demonstrated that the experimental class's average critical thinking score was greater than the control class's, on average. The utilization of simulation learning models and role-playing in the experimental class has resulted in a high average value for the students' critical thinking abilities. Students have opportunity to study information relating to the subject matter in this learning approach in a clear and critical manner. As a result, when given a posttest, students can simply reflect on their opinions critically about the questions presented.

Research conducted by (Zahra et al., 2018) that there was an increase in students' critical thinking skills from 49 to 63 after applying the role-playing learning model to the learning process. Research conducted by (Nirmayani, 2020) which states that the use of role-playing models in the teaching and learning process is more meaningful for students. Halifah, S. (2020) also stated that through roles in the learning process, children interact with other people who also carry out certain roles according to the friends chosen so as to train students' abilities to think more critically.

The results of the study also showed that pupils in the experimental class performed best on the CTAB-1 indicator, which measures the capacity to formulate basic problems. (CTAB-1). This suggests that students have strong critical thinking abilities because they are helped to develop hypotheses or significant topics that are used as role-playing material at the start of their educational journey. Every pair participates, and the students critically explain the main issues and components of each used problem. The aim of articulating the primary concerns is to find, filter, and use clear information from each statement, which

involves formulating problems and determining what decisions need to be taken.

According to (Syam, 2020), students who have strong critical thinking abilities can formulate the main issues and reveal existing facts, detect bias and determine concepts to solve problems, work on questions according to plan, check answers again, use alternative methods, and draw conclusions. According to research (Taimenas et al., 2020), students' critical thinking abilities also allow them to construct problems and reveal facts, present arguments logically, detect bias with diverse points of view less easily, and make conclusions.

The results of inferential statistical analysis also show that there is an effect of using role-playing learning models and simulations on students' critical thinking skills. The role-playing learning model is a learning model as part of a simulation that is directed at creating historical events, creating actual events, or events that may appear in the future. The results of research and experiments conducted show that role play is a model that can be used effectively in learning. In this case, role play is directed at solving problems involving human relations, especially those concerning the lives of students.

The implementation of simulation learning models and role-playing in tenth grade students' moral creed instruction seeks to role-play in the learning process so that students can dramatize action or the expression of one's facial movements in social or human relations. Using this learning model can result in learning experiences such as the capacity for cooperation, communication, event interpretation, and rational, reflective thought. Students' capacity for critical thought improves as a result. According to Manurung et al., (2022) stated that In nurse triage education, the role-playing method has been shown to be effective in enhancing communication, cognitive, psychomotor, self-reflection, critical thinking, and self-efficacy.

Character Building

Character formation is the result of understanding the relationships experienced by each student, namely the relationship with oneself, with the environment, and with God (Tandana et al., 2022). Every result of this relationship provides an understanding which eventually becomes the values and beliefs of students. The character building indicators used in this study are: Religious (PK-1); Discipline (PK-2); Hard work (PK-3); Creative (PK-4); Curiosity (PK-5); and Friendly (PK-6) (Kramer et al., 2021).

The findings indicated that the experimental class's average value of observations of students' character development during the learning process was higher than that of the control class. This occurred as a result of

the experimental class's usage of simulations and role-playing games as learning tools. Through this learning model it directly benefits students to be able to behave religiously, be disciplined, work hard, be creative, be curious, and be friendly. Through learning to play roles and simulations, students practice initiative and creativity. When playing the role of the players are required to express their opinions according to the time available.

Research conducted by (Dariah, 2018) states that it is important to cultivate student character through role playing. The politeness of youngsters increased from Cycle I to Cycle III, according to (Aini, 2019). From pre-cycle through cycles I and III, the average percentage of children's early reading achievement grew. From pre-cycle through cycles I and III, the typical percentage of children who demonstrated their ability to be polite grew.

The results also show that the most dominant indicators of student character when applied to role-playing and simulation learning models are religious and creative. Religious and creative characters appear when students play an active role in role playing activities. Through this learning model, students acquire the habit of accepting and sharing responsibility with others by providing creative ideas related to what they are playing.

According to research by Amalia et al., (2021), role-playing learning integrates religious values, discipline values, honesty values, hard work values, creative values, independent values, curiosity values, national spirit values, friendly/communicative values, the value of loving peace, the value of fondness for reading, the value of caring for the environment, the value of social care, the value of democracy, and many other character values. (2021).

The results of inferential statistical tests, average scores, and an analysis of such abilities using indicators are some of the findings of the study on students' critical thinking skills. The outcomes of the students' critical thinking abilities based on the average value are shown below. (Mehdiyev, 2020) also stated that the application of the role-playing learning model is able to develop oral language skills in terms of being creative in giving ideas.

The implementation of simulation and role-playing learning models has an impact on how students' characters are formed, according to the findings of the inferential statistical study. This is due to the fact that student posttest scores are higher than posttest scores in the control group. PIn order to help students better understand and remember the material that has been played, role-playing is a method of learning in which students are divided into groups, with each group acting out a character in accordance with the script that has

been created and the material that has been decided by the teacher.

Role playing is based on personal and social factors and serves as a model for character development. From a personal perspective, this model aims to assist students in finding significance in a supportive social setting. Students are encouraged to form social groups with peers to help them learn how to deal with personal issues they may be having. From a social standpoint, this method offers students the chance to work together in the investigation of social situations, especially problems involving their interpersonal relationships. Jalilvand, (2017) believes that there are four sources of establishing attitudes, including personal experience, interactions with other people or groups, the effect of the mass media and the influence of figures who are deemed important.

Conclusion

Based on the results of research and research, it can be concluded that there is a significant effect of the application of role playing and simulation learning models on students' critical thinking skills, and there is a significant effect of the application of role playing and simulation learning models on the formation of student character.

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