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Global Conferences Series:
Social Sciences, Education and Humanities (GCSSSEH), Volume 1, 2019
Simposium Antar Bangsa Seminar dan Workshop (SABSW)
DOI : https://doi.org/10.32698/2149

The Effect of Role Playing Model in Improving Results and Learning Activeness in Learning Strategy Subject of Technology and Vocational Education

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Abstract. Learning outcome is a tool to measure the extent to which the students master the material taught by educators. Here, the learning process is a key of success in achieving educational goals. Thus, the students are expected to experience changes in terms of knowledge, skills, values and attitudes. One of the problems faced by educators in conducting effective learning processes in order to improve learning outcomes is how to increase students' interest in that learning material. In order to solve that problem, educators can use role playing learning model.Role Playing model is one of cooperative learning models, this learning model is done by growing the students' imagination.This study aims at determining whether the role playing learning model can improve learning outcomes and students' learning activeness in the subjects of learning technology and vocational education strategies. Based on the results of analysis, it was obtained the average score 65.5 before treatmen is given and 84.4 after treatment is given. Here, it can be concluded that the role playing learning model successfully improves student learning outcomes. In addition, the results of students' activeness testing during the process of lecturing, it was found that Ha 2 is accapted. It means that there was an effect of the application of role playing learning models to student learning activeness.

Keywords: Role Playing, learning result, learning activeness

1 Introduction

Learning process is a determinant of success in achieving educational goals. The students are expected to experience good changes in terms of knowledge, skills, values and attitudes. These changes can be achieved if supported by various factors. Factors that can produce change also influence to improve learning outcomes and interest in learning. Learning outcomes are a tool to measure the extent to which students master the material taught by educators. In line with this, Sadiman (2003: 2) states that the role of educators in the teaching-learning process must be able to develop changes in behavior in students. The change in behavior concerns both knowledge (cognitive) and skill (psychomotor), as well as those related values and attitudes (affective). In teaching any field of study the teacher must strive to develop the knowledge, skills, attitudes, and values of students, because these three aspects form the personality of the individual. Learning is a process of behavior change, which can be expressed by knowledge, attitudes, values and skills.

Those learning efforts lies in the educators' responsibility, how the learning delivered can be understood by students. Thus, the learning process is determined to what extent educators are able to use learning methods and models well. The selection of learning models must be adapted to the learning objectives, learning material, learner characteristics and the ability of educators to manage the teaching process.

One of the problems faced by educators in conducting effective learning processes in order to improve learning outcomes is how to increase students' interest in the learning material. Low interest in learning can be influenced by learning strategies that are less attractive, monotonous (lack of variation), educator-centered learning, less opportunities for the students to show their ability. These problems occur in almost all levels of education from elementary to university levels.

The above problem also occurred in the subject of learning technology and vocational education strategies in informatics education study program. Learning strategies are one of the determinants of the successful of educators in managing classes and the achievement of learning objectives. The problem that occurs is the lecturer still use lecturing method during the process of teaching and learning.During the lecture process, it appears that students are less enthusiastic about attending lectures, students tend to play alone, play headphones, and even disturb friends next to them.

One of learning strategy that can be used is by applying the role playing learning model. Role Playing model is one of cooperative learning models, this learning model is done by growing the students' imagination. In line with this explanation, Santoso (2011) said that the role playing model is a way of mastering learning materials through developing students' imagination and appreciation in which there are rules, goals, and elements of happiness in conducting the learning process. The development of students' imagination is done by acting as a life figure or a certain thing. This game is generally carried out by more than one person, it depends on what is played.

Role Playing model is one of the teaching and learning processes that are classified into simulation methods. Simulation is a general term related to compiling and operating a model that replicates behavioral processes. Oemar Hamalik (2001: 199) stated that the simulation method is a way of teaching by performing a process of imitation.

Based on the description above, it can be concluded that the role playing learning model is an innovative learning model that can increase students' interest in the subject matter presented, so that learning objectives are achievedmore easily. Based on these problems the researchers tried to apply the role playing learning model in the implementation of lectures on the learning strategies of technology and vocational education, hopfully that the application of the role playing learning model could improve students' learning outcomes and activeness.

The purpose of this study is to determine whether the role playing learning model can improve learning outcomes and students' learning activeness in the subjects of learning technology and vocational education strategies. The hypothesis in this study are: 1. Ha1: there is an effect of applying the role playing learning model to student learning outcomes; 2 Ha2: there is an effect of applying the role playing learning model to student learning activeness.

2 Methodology

Based on the objectives to be achieved, this study used pre-experimental with one group pre-post test design. The design of one group pre-post test design is to reveal a causal relationship by involving one group of subjects.

The design of the study can be seen in Table 1.

Table 1. Pretest-Posttest desaign

	Pretest	**Treatment**	***Posttest***
Application	O1	X1	O2

Sumber: Sugiyono (2012:112)

Notes:

X1 : teaching and learning process using *role playing model* .

O1 : *pretest; a test given before treatment is given*

O2 : *posttest; a test given after treatment is given*

The population in this study were 4th semester students of the informatics education study program, the determination of the sample in this study using saturated samples caused by the entire population in this study used as a sample of the study, amounting to 34 people.

The prerequisite analysis test is used to determine the validity of the data, in this study a prerequisite test is used: the validity test of a test will be said to have validation if it can measure certain specific objectives that are parallel to the material or content of the lesson provided.

Pretestwas used to determine whether the students' abilities were the same, the normality test was used to determine whether the data obtained was normally distributed or not, the student's final test (posttest), ended with a hypothesis test measuring the effect of role playing learning models on learning results. In measuring learning activeness, observation method was used and doing observing where the activities take place. The observation process is carried out using observation sheet instruments as assessment instruments using 4 scales, namely never, rarely, often, and always. This method is used to see the extent of student learning activeness in the subject of vocational technology education learning strategies.

The next process is interviewed to see student responses to the application of role playing learning models. The success of this study lies in increasing student learning activeness in the subject of vocational technology education learning strategies using the role playing learning model. Before the learning activeness instrument is used, it is tested for validity by expert judgment by using the gregory formula.

C (-,+)	D (+,+)
B (+,-)	A (-,-)

$$CV = \frac{D}{A + B + C + D}$$

notes:
CV = Content Validity
D = both Judges are agree
C = Judges I is disagree, Judges II is agree
B = Judges I is agree, Judges II is disagree
A = both Judges are disagree
Kriteria :
0,80 – 1,00 = Very High Validity
0,60 – 0,79 = High Validity
0,40 – 0,59 = Average Validity
0,20 – 0,39 = Low Validity
0,00 – 0,19 = Very Low Validity

3 Results and Discussion

3.1 Validity of the Instruments

Instrument testing was conducted to test the instrument before used for collecting the data. The instrument has been validated and discussed with other informatics lecturers who have knowledge of learning strategy subject. Based on the validity test, the results obtained was 95% with very valid category, so the questions can be used as pretest and post-test questions to measure students' abilities.

Before the learning activity instrument was used to test the validity, the results of the recapitulation of the results of the assessment of the observation sheet from 2 informatics education lecturers can be seen in the following table:

Table 4. Recapitulation of Results of Assessment of Learning Activity Observation Sheet

Expert Judgment 1	*Expert Judgment* 2	Data Tabulation
3 4 2 4 4 4 4 3 4 3 3 3 4 4 3 4 4 4 2 4 4 3 4 4 3	4 4 3 3 3 4 4 4 3 3 4 4 4 4 3 3 4 4 3 4 4 2 4 4 4	D D C D DDDDDD D DDDDDDD C D D B D DD

$$CV = \frac{D}{A + B + C + D}$$

$$CV = \frac{22}{0 + 1 + 2 + 22} = 0{,}88$$

The results obtained was 0.88, it is categorized into very high validity. It can be concluded that the learning activeness instrument is valid as a research instrument.

3.2 The data of Students' prior ability

The data on the prior ability of students is the ability of students before given treatment obtained from the results of the pretest. Data description of students' initial abilities

Tabel 5 data of Students' prior ability

Parameter	Hasil Perolehan
Highest score	77
Lowest score	44
Average score	65,5
Median	66
Modus	55
Standar Deviasi	68.47

After conducting the analysis prerequisite test which included normality and homogeneity tests, it was found that the score of the prior ability of students was normally distributed and had the same (homogeneous) variance level.

3.3 Student Final Ability Data

Student learning outcomes data were obtained from the accumulation of posttest, assignment, and affective scores. The Average score of posttest and product.

Table 6 Learning Outcomes Data

Parameter	Hasil Perolehan
Highest score	94
Lowest score	64
Average score	84.4
Median	85
Modus	85
Standar Deviasi	6.4

After conducting the analysis prerequisite test which included normality and homogeneity tests, conclusions were obtained that student learning outcomes were normally distributed and homogeneous.

3.4 Hypotheses testing

Hypothesis test results of learning outcomes before and after treatment

Table 7 Recapitulation of learning outcomes

Nilai	***Pretest***	***Post-test***
Average score	65.5	84.4
Lowest score	44	64
Highest score	77	94

After testing was done, the results showed that the average score, the highest scoreand the lowest scoreof the students before treatment was carried out and after treatment, it was produced that there was an increase in the score of learning outcomes. So it can be concluded that Ha 1 is accepted there is an effect of the application of role playing learning models to the learning outcomes of 4th semester students in the subject of vocational technology education learning strategies.

Furthermore, the results of students' activeness testing during the process lecturing before and after given treatment using the role playing learning model can be seen in the following table:

	Before treatment	**After treatment**
Average score	67	89
Minimum score	55	85
Maximum score	70	95

It can be concluded that there are differences in student learning activeness before role playing learning model was applied and after it was applied with the average score 67 to 89. So it is concluded that Ha 2 is accepted; those there is the effect of the application of role playing learning models on the learning activities of 4th semester students in the subject learning strategies for vocational technology education.

Based on the results of testing to 34 of 4th semester students in the informatics education study program, it was obtained that learning outcomes before and after the treatment is: an average score 65.5 and after given a treatment was 84.4. The highest scorewas 77 while after being given a treatment was 94.The lowest score was 44 and 64 after given a treatment. Based on the results, it can be concluded that the role playing learning model succeeded in improving students' learning outcomes.This is caused by treatment that occurs in the research that is with the model role playing learning throughout the learning process is students-centered.The students are required to be able to do teaching simulations using one of the learning strategies both methods and learning models. Before doing teaching, the students must study that strategy so that in turn the student is ready to carry out the teaching simulation well.

The result of learning activeness were obtained average score 67 and 89 after given a treatment.The lowest score was 55 and 85 after given a treatment.The highest score was 70 and 95 after given a treatment. In line with the student learning outcomes after treatment was given an increase.The students are more enthusiastic to take part in the lecture because if the student does not have a role in becoming a vocational teacher it means that at that time the student will be a Vocational student, because the characteristics of the Vocational students with others are somewhat different, so that the activity of each students in taking part in

lectures on the learning strategies of technology and vocational education increased more than before.

4 Conclusion

- The first hypothesis is accepted, Ha 1 is accepted, that is, there is an effect of the application of role playing learning models on student learning outcomes in the subject of vocational technology education learning strategies, this occurs because role playing models are more interesting than the previous lecturing method applied in the subject.
- Hipotesis kedua diterima, Ha 2 diterima yaitu terdapat pengaruh penerapan model pembelajaran role playing terhadap keaktifan belajar mahasiswa pada mata kuliah strategi pembelajaran pendidikan teknologi kejuruan, hal tersebut dikarenakan dalam proses simulai (bermain peran) menjadi guru SMK atau menjadi siswa SMK seluruh mahasiswa ikut perperan dan memiliki karakter tersendiri, sehingga proses perkuliahan benar-benar dapat dimaksimalkan dan seluruh mahasiswa terlibat.
- The second hypothesis is accepted, Ha 2 is accepted, namely there is an effect of the application of role playing learning models on student learning activeness in the subject of vocational technology education learning strategies. It occurred because in simulation process(role play) being a teacher or a student must take a part and has our own character, so the lecturing process can really be maximized and all students involved.

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