

THE UTILIZATION OF “SUNDA MANDA CHEM” GAMES AS A LEARNING MEDIA OF ELEMENT, COMPOUND AND MIXTURE TO INCREASE LEARNING OUTCOMES AND PRACTICE STUDENT CHARACTER

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Abstrak

Penelitian ini bertujuan untuk mengetahui peningkatan hasil belajar dan melatih karakter siswa pada penggunaan media permainan “Sunda Manda Chem” untuk pembelajaran Unsur, Senyawa dan Campuran siswa SMP. Metode penelitian yang digunakan adalah *one group pretest-posttest*. Hasil penelitian penggunaan media permainan “Sunda Manda Chem” menunjukkan bahwa sebesar 84,6% siswa mengalami kenaikan skor hasil belajarnya. Uji T diperoleh perbedaan yang signifikan antara nilai *pretest* dan *posttest*. Persentase keterlaksanaan karakter dapat dipercaya sebesar 92,2% dari observasi perilaku berkarakter dan 86,1% dari angket karakter siswa. Sedangkan karakter menghargai orang lain sebesar 92,4% dari lembar observasi perilaku berkarakter dan 82,6% dari angket karakter siswa. Sehingga dapat disimpulkan bahwa keterlaksanaan karakter dapat dipercaya dan menghargai sudah terlatih dengan sangat baik.

Kata Kunci: hasil belajar, “Sunda Manda Chem”, karakter, Unsur, Senyawa dan Campuran

Abstract

The aims of this study are to know the increasing of learning outcomes and practicing student's character using “Sunda Manda Chem” games media in the learning of Element, Compound and Mixture in Junior High School. The study was used a one group pretest-posttest design. The result after “Sunda Manda Chem” games media utilization shows that there are 84.6% students who had learning outcomes increasing. Based on T test obtained a significant difference value between pretest and posttest. Percentage of trustworthy character enforceability is 92.2% from character behavior observation and 86.1% from student character questionnaires. While percentage of respect character enforceability is 92.4% from character behavior observation sheet and 82.6% from student character questionnaires. So, it can be concluded that the enforceability of a trustworthy and respect characters are very well trained.

Keywords: learning outcomes, “Sunda Manda Chem”, character, Element, Compound and Mixture

INTRODUCTION

Based on the Minister of National Education Regulation No. 22 of 2006 Date 23rd of May 2006, curriculum is implemented by utilizing natural, social, cultural conditions and regional wealth for educational fruitfulness with all content of study materials optimally, so in curriculum is set up that culture and

regional wealth should be utilized maximally for science learning [1].

Minister of National Education Regulation No. 23 about competence standard of passing (*Standar Kompetensi Lulusan*) contains character substation. One of them is respect for religion, culture, ethnicity, race, and social class diversity. So it can be seen that the

government is already set character in the learning process.

There are some learning media that can be used, one of them is "*Sunda Manda Chem*" traditional games. Now, there is modified "*Sunda Manda Chem*" as learning media of Element, Compound and Mixture and it has been tested through worthiness, so it is necessary to do a study to know the increasing of student learning outcomes after using the game media and involve students to train their trustworthy and respect character.

Nowadays modern game is more interest to some children rather than traditional game. It happen because of students considers that the traditional game was old. Therefore, "*Sunda Manda Chem*" games media is expected can preserve traditional game and nation culture also train student character during play the traditional game activity. So a sense of belonging and sense of preserving the culture will appear inside student's mind.

Government regulation No. 19 of 2005 (*PP No. 19 Tahun 2005*) about the standard of learning outcomes assessment state that development of understanding by playing is a real effort to support learning in schools. Games utilization in the learning process can be a learning program for students [2]. The use of game media as a learning media is one of the school effort to increase student learning outcomes.

Based on Republic of Indonesia Constitution No. 20 of 2003 (*UU RI Nomor 20 Tahun 2003*) about the national education system, that state "The national education serves to develop skills and form character and also dignity national civilization in the context of the intellectual life of the nation, aim to develop the potential of students to become a religious, good, healthy, knowledgeable, skilled, creative, independent, and become democratic and responsible citizens" [3].

Those constitutions indicate that the character is an important thing that must be developed. "Strong character is fundamental thing that gives the ability for the human population to live together in peace also establishes good and virtue world, that is free of violence and immorality. Character is

visible behavior in daily life both in attitude and action [3]. From these quotations can be seen that the character is very important in the development of human behavior. Thus the learning of Element, Compound and Mixture should become character train of students character especially trustworthy and respect character.

Chemistry learning is packed to science lessons in Junior High School are expected to make student interest in these learning subjects. Students will feel happy and comfortable when they are learning in various and creative way. One of the chemical materials in junior high school is Element, Compound and Mixture. The subject that is contained in this matter is the difference of Element, Compound and Mixture concept.

Based on the Minister of National Education Regulation No. 22 of 2006 Date 23rd of May 2006, one of the curriculum implementation principles is learn to build through the process of active, creative and fun learning. So learning in the classroom should be arranged that students feel happy and can increasing learning outcomes through the application of game media [1].

"*Sunda Manda Chem*" game media is taken from the traditional game in East Java, called *Sunda Manda*. This game has been modified based on individual regions, there are a form similar to "people" and also a square shape.

Sunda Manda game is a traditional game that is usually played on the yard, by drawing the boxes then jump from one box to the other box. This game has many other names or terms. Some call it *Engklek*, *Teklek*, *Jlongjling*, etc. Terms mentioned are diverse, but the game is still same [4]. Procedure of game are throwing *gacuk* in correct position, player must jump with one leg of each box to the other box and not be stepped on an existing boundary line. When throwing *gacuk* must not exceed the line and hit the barrier, if it is done, then the game is considered over [4].

The survey results in SMPN 2 Pare Kediri at 26 students, obtained data that 89% of students feel difficult with Element, Compound and Mixture subject matter. From

the survey of 26 students obtained data that 76% of students receive difficult matter caused by the way of teachers when presenting matter and 56% of students found less of learning media. So the students make an assumption that less of media can hamper the lesson.

In addition another result show that student more interest when learning was done by using the game media. There are 64% students felt game media is the expected media, and 92% students are interested if Element, Compound, and Mixture subject matter taught by using game media. This is further confirms that game media for Element, Compound and Mixture matter is needed to develop student's interest in learning and can train students character because in every game need characters, especially trustworthy and respect characters that will be trained in this study.

Seventh grade of Junior High School age is between 12-13 years old, so according to Piaget, they include in category of concrete operations stage that show between six to twelve years old and has characteristics of using suitable logic and formal operations which have characteristics obtaining an ability to think abstractly, reason logically, and make a conclusions from available information. In this stage, someone can understand things like love, logical evidence, and the value [5].

Vygotsky placed more importance role on the social aspects of learning. Vygotsky believes that social interaction with others can develop of new ideas and enrich student's intellectual development [5]. Based on Vygotsky's theory, the social interaction with friends will be doing well by using game media because in this game is done in groups, so that the social interaction between groups of friends would be more visible.

From the description, the problem formulation is how the learning outcomes of students and training of trustworthy and respect characters after using "Sunda Manda Chem" game media in Element, Compound and Mixture learning based on the study in VII-i class SMPN 2 Pare Kediri?

This study is expected to increase student learning outcomes appropriate with the principles of the implementation of the

curriculum in 2006. Learning media is used to bring the freshness and variety of learning experiences for students, so it can give a positive impact that is increasing learning outcomes [6].

METHOD

The study was used a one group pretest-posttest design to determine fruitfulness of "Sunda Manda Chem" game media in the learning process of Element, Compound and Mixture matter in seventh grade of junior high school.

In the implementation of this game media in learning activity was done in groups, 1 group consists of 3 students. Prepared 3 games media made of carpet and every carpet used by 3 groups, so in one class formed 9 groups. Here is a picture of the game media:

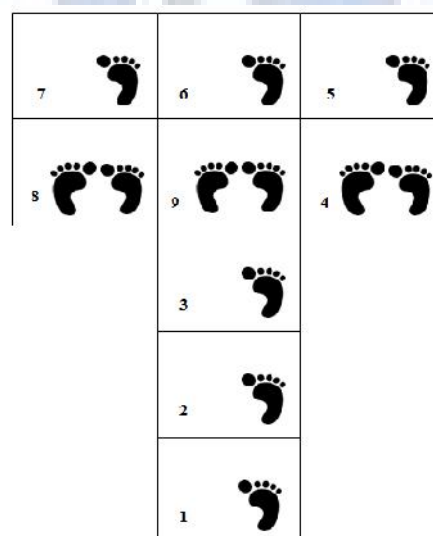


Figure 1. "Sunda Manda Chem" game media

Note: 1. the number in the picture above indicate the way that should be passed by player.

2. = jump with one leg
3. = jump with two leg

This study involved 26 students in VII-i class SMPN 2 Pare Kediri. Data collection techniques are to know the increase of student learning outcomes by giving pretest problems

to students before they use "*Sunda Manda Chem*" game media, and posttest problems after students use the media. For student character training done in two ways, with the character behavior observation (observed by the observer) and the student character questionnaires (completed by students). Both the data obtained were processed to calculate the percentage of students who can be trained trustworthy and respect characters.

Pretest and posttest results were analyzed statistically with an average test between two related groups and first testing requirements tested it is the Shapiro-Wilk normality with SPSS program. Observation sheets and students character questionnaires data were analyzed in the percentage (%). The obtained results then interpretation by (1) Very Less, (2) Less Good, (3) Good Enough, (4) Good, (5) Very Good.

RESULTS AND DISCUSSION

The results of Shapiro-Wilk normality test data shows pretest score is $\text{sig} = 0.349$ and posttest scores $\text{sig} = 0.030$, so in significant level of 1% is obtained $\text{sig} > 0.01$ showed that data of two groups are normal.

From learning outcomes of Elements, Compounds and Mixtures in VII-i class SMPN 2 Pare Kediri, by using "*Sunda Manda Chem*" game media get data of pretest and posttest value as follows:

Table 1. Score of pretest and posttest results

	Average	Σ of student	Σ of student who reach mastery learning outcomes	%
Pre	64.307	26	10	38.5
Post	80.923	26	23	88.5

Based on the data, it can be seen that students who reach mastery learning outcomes in pretest phase while only 38.5% whereas in posttest phase is 88.5%. So it can be concluded that by using "*Sunda Manda Chem*" game media, students learning outcomes can be increase.

T test results of the two groups paired with SPSS program get t value= 6.184 and 0.000 sig value. This value shows that the $\text{sig} < 0.01$ means that H_0 is rejected and H_1 is accepted. It means that there are significant difference between the average results of the pretest and posttest results.

From pretest and posttest result above it is also got a data about 22 students increase their score, so 84.6% of students had increased in score and include in very good category. So posttest results were better than pretest results showed that test has been made is appropriate with the aim of study. This is appropriate with a study that is state that games media can increase student mastery learning outcomes. Students are not only focused on the lesson, but they can learn while playing and therefore contributes to their academic achievement [7].

The results from character observation are 92.2% of students trained in trustworthy character and 92.4% are trained in respect characters. From questionnaire character results showed that 86.1% of students felt had been trained by a trustworthy character and 82.6% of students had been trained by respect characters. So from these two results it can be concluded that trustworthy and respect characters have been trained very good. This opinion was also supported by a study which states that the students character showed of their activity that is always motivated to follow the rules of the game [8].

CLOSURE

Conclusion

The use of "*Sunda Manda Chem*" game media in Element, Compound and Mixture learning of seventh grade in junior high school: (i) there are 84.6% students who had learning outcomes increasing. Based on T test obtained a significant difference value between pretest and posttest. (ii) Percentage of trustworthy character enforceability is 92.2% from character behavior observation sheet and 86.1% from student character questionnaires. While percentage of respect character enforceability is 92.4% from character behavior observation sheet and 82.6% from student character questionnaires.

Suggestion

The use of traditional games as a chemistry learning media can be used as an alternative for students character training.

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