The Application of Role Playing Method in the Digestive System Material Learning in SMPN 4 Geyer

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Article Info

Abstract

This research purposes to know students activity and learning result in the application of Role Playing in the digestive system material. The study used Pre- Experimental One-Shot Case Study design. The population of the study is all students of grade VIII of SMP N 4 Geyer. The sample of the study is VIII B and VIII E and use Simple Random Sampling method to choose the sample. The observation results of the students' activity from both classes are 91.7% and 88.5% with good and very good category. The learning outcomes on knowledge and skill aspects from both classes are 95.8% and 88.4% students are included in good and very good category. The classical completeness is 95.8% and 92.3%. The teacher and students' response show positive respond toward the applied learning method.

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INTRODUCTION

Biology learning emphasizes the provision of a direct learning experience that can be gained through the students' personal experience, so that the learned lessons in the school must be designed to encourage students to be more active in constructing their cognitive knowledge through problem-solving activities, finding information and trying to convey their ideas. Students are required to have skills that can be used to build their inner knowledge, while teachers are required to have the ability to develop innovative learning activities in order to achieve ideal learning (Sumarlina, 2014).

The concept of Biology consists of a collection of concrete and abstract concepts. Concrete concepts are easier to learn because they are often observed concepts, such as the characteristics of living things and biotic environments. Conversely, the abstract concept is more difficult to understand because students cannot see it directly as photosynthesis, digestive system, respiratory system, transportation system, excretion system and reproduction system.

The material of the digestive system is the material of class VIII SMP in odd semester. The basic competency for the cognitive aspects set in the 2013 curriculum of digestive system material is KD 3.5. KD 3.5 states, "Analysing the digestive system in humans and understanding the disorders associated with the digestive system, as well as the effort to maintain the health of the digestive system". While the psychomotor aspect is KD 4.5 that is presents the results of an inquiry about the mechanical digestion and chemical. From the object and character of the material, digestive system learns things in the body and cannot be observed directly. So, it is difficult for students to learn it.

Based on the results of preliminary observations conducted at SMP N 4 Geyer, students are less active in following the learning and students only focus on what is delivered by the teacher. In teaching and learning process especially food digestion material, teachers use lecturing method. Teacher-centered learning will create teacher-dominated learning. According Slavin (2008) selection of the right learning strategy is very decisive level the success of teachers in creating a student-centered learning atmosphere, so that learning is not monotonous. Based on the observation result, the average daily data of students of 2015/2016 on the material of the digestive system of one class with the total number of 32 students, only 9 students reached KBM (77) and the classical completeness only reached 28.1%. This demonstrates the achievement of a low classical completeness that reflects that the teacher's lessons have been less successful and less effective.

One of learning methods that can be applied to improve learning outcomes and student learning activities is to use the role playing method. The role playing method is able to facilitate the students in understanding the material of the digestive system, the occurrence or the analogical process generated in the simulation will enable the students to understand the process or the actual event that cannot be observed directly. Simulations in teaching methods are meant to be a way of explaining something (learning material) through acts of pretence or through the process of imitation behaviour, or playing a role about a behaviour that is done as if in real circumstances (Sudjana, 2008) .

Based on the identified problems including the less successful instructional design applied by the teacher and the less active students in the learning that allegedly resulted in low student learning outcomes, the application of learning materials digestive system using role playing method is expected to stimulate students to be more active in learning so that they will achieve optimal learning outcomes.

RESEARCH METHOD

The research used Pre-Experimental with One-Shot Case Study design that aims to find out how the activity and learning outcomes of students during the use of Role Playing method in the learning of digestive system material. This research was conducted at SMP Negeri 4 Geyer in odd semester of academic year 2016/2017. The samples used are VIII B and VIII E and determined by Simple Random Sampling.

The main data in this research includes data of activity observation result and also result of cognitive and psychomotor study which is obtained through post-test and portfolio activity .Supporting data in this study includes classical completeness data in two classes studied, student questionnaire responses data and

teacher responses to the learning applied. This research is stated success if student learning activity show ≥ 75% reach active criterion and very active in learning activity while result learn student show ≥ 85 % reach good and very good criteria.

RESULTS AND DISCUSSION

Students' Learning Activities

Data of students' activities is obtained from observation result using observation sheet of students' activity during the learning activity. The observation results from both classes are presented on the Table 4.1 as follows.

Table 1. Percentage of Students' Number based on Three Level Students' Activeness on the Applied Learning Method

Activeness Criteria	Students' Number (%)	
	VIII B	VIII E
Very Active	58,4	50
Active	33,3	38,5
Less Active	8,3	11,5
Very Active and Active*	91,7	88,5

The results shows that students have achieved active and very active criteria with student learning activities classically for grade VIII B and VIII E reached 91.7% and 88.5% respectively, this result indicates that the application of Role Playing method in the learning digestive system material can make students active in learning.

Implementation of learning using Role Playing method requires students to be active in the learning process. Students become active because each student is involved doing Role Playing in agreement with their own job, there is a job as a player, reviewer, and audience. The distribution of different tasks at the time of Role Playing makes no students are silent and passive in learning. In general, the application of applied learning design is proven to make students active in learning because the applied learning design is able to stimulate all students to be active especially on visual aspect and listening activity, motor and writing activity, emotional activity, and oral activity.

Students feel more active in learning can be happened because all students are directly involved in the learning process so that the classroom atmosphere comes alive. Listiana (2013) explains that the activity of thinking, speaking, and writing is one form of biology teaching activities that provide opportunities for students to participate actively. Through these activities students can develop language skills appropriately, especially when conveying biological ideas. This has been facilitated in the design of applied learning.

In general, the application of this instructional design is proven to make students active in learning because the applied design can stimulate students to be active. In line with this, Fauriya (2009) in her research that apply the method of Role Playing in SMPN 5 Kudus showed the result that student learning activity reached 89.8% active and very active student category. This is also indicated by the result of Huda's research (2010) that the application of learning with Role Playing method can improve students' learning activity, 82.5% of students reach active and very active criteria on the application of learning material circulation system at SMPN 10 Semarang. In line with this, in research conducted by Haq et al. (2014) revealed that learning by method Role Playing can improve students' activity because students are invited to play while learning and work together to solve the problem so that the classroom atmosphere is more lively and fun.

Achievement of student learning activities has shown very satisfactory results, however there are still 5 students whose learning activities are still classified as inactive criteria. Based on further searches on student activity observation sheets showed that 3 students (B20, E21, E26) had low scores on aspects of visual and listening activities, E21 and E26 students were occasionally joking (both acting as an audience), students B23 and E11 show low scores on the active aspects of communicating (oral activities) especially in terms of asking, answering, and responding.

Solutions that can be done to overcome the problems of students who lack in the oral activity aspect can be done by giving motivation and more attention to the potential students so that in the end expected all students can be active in learning especially aspects of communicating. Furthermore, to address the students who are lacking in aspects of visual and listening activity can be done by involving all students in playing the role so that students will concentrate fully on the material and do not have the opportunity to joke with other students, but teachers can also provide a more interesting apperception so students will be more interested and interested when the teacher gives an explanation.

Learning Result

Students' learning outcomes are gained from test and portfolio which cover score of searching article of digestive system disorder and write the report of chemical and mechanic digestive observation. The recapitulation of both classes' scores are presented on Table 4.3

Table 2. Percentage of Students' Number based on Five Level Students' Activeness on the Applied Learning Method

Learning Outcome Criteria	Students' Number (%)	
	VIII B	VIII E
Very Good	1 (4,16)	2 (7,69)
Good	22 (91,68)	21 (80,78)
Enough	0 (0)	1 (3,84)
Less	1(4,16)	2(7,69)
Bad	0	0
Very Good and Good	23 (95,8)	23 (88,4)

Based on the result of research indicates that student learning result at SMP N 4 Geyer has reached good and excellent criterion with percentage of 95.8% and 88.4% respectively. Student's classical completeness also shows quite high successive result reach 95.8% and 92.3%. Thus the learning outcomes of students have achieved the target set that is ≥ 85% of students achieve good criteria and very good on the learning results with classical completeness reached ≥ 85%.

Implementation of learning materials digestive system using the Role Playing method is a variation of Biology learning design that can reduce student saturation. Through the application of this learning design students can be more interested and active in understanding the material being studied. Interest in students to follow the learning activities trigger high student learning activities that will impact on students' understanding of the material learned which is shown by the high learning outcomes obtained by students.

Learning using Role Playing method indirectly requires students to have two forms of learning responsibility, which is learning for their selves and helping fellow group members and the whole class to learn (Rusman, 2011). In the learning process all students mutually help in the process of understanding the material in accordance with their respective duties in the Role Playing, so that students who lack the ability to boost up the results of learning through learning that have been applied. Park's (2012) research states that

students will remember more about learning materials if their knowledge is built based on the learning experience that has been done.

The high achievement of student learning outcomes in this study can be activated by a pleasant learning atmosphere, thus allowing increased motivation and student participation in learning. The results of the questionnaire of students 'responses indicate that all students feel if the learning activities applied can increase the students' motivation to learn. Thus the method of Role Playing in applied learning has been able to motivate students in learning

In the learning method of Role Playing, students are trained to find their own concept of learning through characterization as a living or inanimate character, so that students are required to master learning materials through the development of imagination and appreciation of students in a more pleasant atmosphere according to their own understanding which in the end making students easier to remember and they gain more understanding than students who only listen to a lecture to find a learning concept.

The results of the study in both classes have shown good results, however in class VIII B and VIII E there are still students whose learning outcomes are included in the category less. Students who are classified as low learning outcomes in class VIII B is 1 person (B20), while in class VIII E is 2 people (E22 and E26). The following table presents the results of learning, activities, and responses of the students concerned as a discussion in this case.

Table 3. Recapitulation of Activities, Learning Results, and Responses from 3 Incomplete Students

Students' Code	Learning Activities		Learning Results			Students' Response
	Percentage	Category	Portfolio 1	Portfolio 2	Test	Have not experience
B20	62,5%	Very Active	80	80	65	aspect 5
E22	81,2%	Active	80	80	60	aspect 5
E26	56,2%	Less Active	80	80	70	aspect 1 and 5

Based on Table 3, the students with codes B20 and E26 indicate less active learning activities and low test scores (the mean values of class tests VIII B and VIIIE are 85.4 and 82.2 respectively), indicating that learning activities effect on student learning outcomes, however the students with code E22 which is included in the active criteria at the time of learning activities but not complete learning. After further explored what is suspected as the cause of the unfinished study of E22 students is because students concerned at the time of learning is in a state of illness. According to Suryabrata (2010), the condition of students who are less healthy gives a direct impact on the optimal performance of the brain in processing a subject matter submitted by teachers.

Responses from the three students (B20, E22 and E26) to the learning activities of the digestive system using the Role Playing method showed that those three did not feel the 5 aspect (the discussion activity made the students braver to express their opinion) and the E26 students had not felt the superiority of aspect 1 (students feel happy in learning activities). These results provide guidance that teachers need to be more observant to detect earlier for students who experience things like this to be taken as early action as possible in order to overcome them. Give more attention to the students concerned, give an opportunity to express opinions, ask questions, or appear in front of the classroom can be done to stimulate the spirit of learning.

Students' Response

The students' response of the application of Role Playing method in digestive system learning is obtained from questionnaire. The questionnaire contains 6 aspects and it is given to students of VIII B and VIII E. The results are shown in the Table 4 as follows.

Table 4. Percentage of Students' Response toward Applied Learning

No.	Asked Aspects	Answers VIII B class		Answer VIII E class	
		Yes (%)	No (%)	Yes (%)	No (%)
1.	I feel happy with the learning activities of the digestive system material that has been done	96	4	84	16
2.	I feel more active in the undertaken learning activities.	100	0	100	0
3.	Does the form of learning (role play) make you more enthusiastic in learning?	100	0	100	0
4.	Is the learning activity of the digestive system material that has been done (role play) making you more easily understand the material of the digestive system?	100	0	100	0
5.	Is the discussion activity that has been done making you more courageous in expressing opinions?	87	13	84	16
6.	In the learning activities in groups, does each member help each other in understanding the material being studied?	100	0	100	0

The percentage on each item of the question indicates the extent to which aspects of instructional design excellence asked in the item have been perceived by the student. Based on the data of students' responses to the applied learning in Table 4 above, it is known that all students have felt the superiority of the aspect asked in the questionnaire covering the aspect 2 (the students feel more active in the learning activities), aspect 3 (the form of learning made the students more spirit in learning), aspect 4 (learning activities make students better understand the material), aspect 6 (learning activities in groups of each member to help each other in understanding the material). Atmojo (2013) in his research revealed that students who have high learning activities have high learning results as well. Activity of students in activities learning will foster motivation to learn which will ultimately affect improvement of learning outcomes. This is in accordance with the Rigos and Ayad statements (2010) that satisfactory conditions are one of the factors that can improve results student learning. Therefore the high percentage of questionnaire results of student responses on each aspect the question can be understood.

However, there are still two aspects, aspect 1 (students feel happy in learning activities that have been done) and aspect 5 (discussion activities make students more courage to express opinions) that not all students feel it, there are 2 students and 3 students from class VIII B and VIII E who have not felt the aspect 1, while the 5th consecutive aspect has not been felt by 3 and 4 students in class VIII B and VIII E. From the results of questionnaires this student feedback can be input and correction for teachers, especially aspect 1 and 5 so that the application of further learning can be given more attention to both of these aspects so that all students can feel the advantages of the applied learning design.

Teacher Response

The teacher's response toward the application of Role Playing method in learning digestive system material is obtained from an interview and presented on Table 5. From data on Table 5 shows that teacher gives positive response toward the application of Role Playing method in learning digestive system material.

Table 5. Summarize of Teacher's Response toward the application of Role Playing method in Learning Digestive System Material

No.	Main Question	Summarize of Teacher's Answer
1.	Impression to the learning process	Very impressive, because the instructional applied design makes student's learning outcomes become satisfactory and students more clear and easy in understanding the material
2.	Students'Activities	Students are more actively involved in learning activities as well as more increased than usual learning.
3.	Advantages and Disadvantages	The more students are more enthusiastic and interested to follow the learning, while the shortage takes a lot of time in learning.
4.	Suggestion for Design Betterment	The time management is improved so as not to take time, in addition to making the Role Playing script improved so that students more easily understand
5.	Compatibility with KI and KD	Learning is in conformity with KI and KD standards set so it is appropriate to apply.

From five asked aspects, teacher explains that applied learning is very impressive and has been optimized the activities and students' learning outcomes. Teacher says that the applied learning has been corresponded to the set competency and appropriate to be applied for the next learning. Teacher suggests the time management for the betterment so the time usage becomes more efficient. In addition, the script of Role Playing should be written in more simple language that makes students easy to understand (students understand the plot faster). The suggestions and advices from teacher will be the consideration in the design betterment for next learning.

CONCLUSION

According to the research, it can be concluded that the learning of digestive system material using Role Playing method in SMPN 4 Geyer has been made students more active in the learning process and the results is very satisfying.

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