The Effectiveness of the Complete Sentence Learning Method with Giving Questions and Getting Answers on Students' Physics Learning Outcomes of SMPN 1 Sampaga

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Abstract

This study aims to determine the increase in physics learning outcomes after combining the Complete Sentence learning method with Giving Questions and Getting Answers to class VIII students of SMPN 1 Sampaga Kab. Mamuju. This type of research is Pre-Experimental Design with One-Group Pretest-Postest Design. The population of this study was all class VIII students of SMPN 1 Sampaga for the 2019/2020 academic year. The sample was determined using the Simple Random Sampling technique. The research instrument used was the learning achievement test instrument and student observation. The data analysis technique used is descriptive and inferential statistical data analysis. The results of the study of student learning outcomes data before using the combination of the Complete Sentence learning method with Giving Questions and Getting Answers reached an average value of 40.18. The Ministry of Education and Culture guidelines regarding the category of students' cognitive outcomes show the most significant percentage in the low sort, which is equal to 60.71%. Combining the Complete Sentence learning method with Giving Questions and Getting Answers achieves an average score of 75.54. The Ministry of Education and Culture guidelines regarding the categories of students' cognitive outcomes, which show the most significant percentage, are established in the high class, which is equal to 50.00%. The results of hypothesis testing using the t-test, H0 is rejected, and Ha is accepted. This study concludes that this learning method effectively improves student learning outcomes in Work and energy. This research implies that applying a combination of the Complete Sentence learning method with Giving Questions and Getting Answers deserves to be considered a physics learning method in improving learning outcomes.

INTRODUCTION

Science learning, especially Physics in junior high school, aims to create students excelling according to their talents and potential, provide the necessary skills for students who will continue their education to a higher level, and prepare graduates ready to face global challenges. According to Saputra (2022), Physics concepts require the ability to practice thinking and reasoning so that one's reasoning abilities can develop [1]. The teacher's task is not only to pour out some information on students but to see how essential and beneficial concepts are firmly embedded in the minds of students; to Saputra (2020), misconceptions about students can be overcome with various learning approaches as a solution improve mastery of concepts and reduce misunderstandings in the process

learning [2]. Students are declared to get good learning outcomes if they get grades according to the minimum completeness criteria (KKM) set for the subject. The minimum completeness criterion set for the physics subject at the school is 72. However, there are still students under the minimum completeness criteria; the average student score is 70 for student knowledge.

Based on interviews with several students conducted by researchers at school, the teacher often gives physics material using the lecture method, and after that, the teacher asks students to read books related to the material presented. Therefore, most students only passively listen, and some students do not read books because these students do not understand what they read. Saputra (2021) states that the Covid-19 Pandemic has changed our education system, so students' learning activities must be focused on their competence development [3]. Such a learning atmosphere with not to much variated this time makes students bored because they are not involved in learning activities, so many students play alone, chat with friends, and ignore the teacher's explanation. Students o not understand the subject matter and the result.

A researcher needs to carry out renewal steps so that student learning outcomes increase, one of which is by increasing student activity in the learning process, like Akhfar (2020) said, Basically, in executing the most influential learning factor is the learning environment at school. Learning should be exciting and fun from a psychological point of view learners [4]. By cultivating this attitude, it is hoped that students will become active and understand the material presented so that the objectives of learning will be easily achieved and students will get learning outcomes above the minimum completeness criteria determined by the teacher at the school.

The learning method chosen must be able to create an exciting learning process. The learning method that will be selected wants students to pay attention that the essence of the teaching and learning process is the existence of student learning activities, meaning that it must be centered on students, not on the teacher, according to Sukariasih (2019). In most of the current learning, students are only faced with concepts and formulas without any learning activities, which demands the entire action of students to understand the knowledge being taught [5]. However, what is seen now is that sometimes in a class, the teacher is more active than the students, especially if the teacher carries out the learning process using conventional learning models, where the teacher dominates the conversation. In contrast, students are forced or even forced to sit, listen and take notes, the result is teaching and learning process tends to be boring and makes students lazy to learn.

Several studies prove that the attention of learners decreases over time. In addition, students' assumptions that physics is complicated also hurt the learning process, namely they only learn physics by listening to a teacher's explanation, memorizing formulas, then increasing practice questions with recipes that have been remembered, Hunaidah (2019) learning science, especially physics, students are required to be skilled in responding to a comprehensive range problem so that it will have an impact on mastery of their concepts accordingly expectations of teachers as educators.[6]. Mechanically, students may be able to solve physics problems quickly and correctly, but this is not matched by an understanding of the problem's essence, so they will be confused when asked about the physics being taught. According to Saputra (2021), science is mastery of a collection of knowledge in the form of facts, concepts, or principles and a process of discovery [7]. One of the learning methods used is the Complete Sentence learning method which is combined with the Giving Questions and Getting Answer learning method to create a new atmosphere of learning physics at school so that students learn not only to listen to the teacher presenting material, but students are also involved so that students are active when learning atmosphere takes place.

The Complete Sentence learning method is learning by completing sentences, with the syntax: preparing blanks in the form of paragraphs whose sentences are incomplete, conveying competencies, students are assigned to read discourses, the teacher forms groups, student worksheets are distributed in the form of sections whose sentences are incomplete, students Group complements and presentations. The Complete Sentence learning method invites students to work together by discussing to answer questions by completing answers according to the subject matter. With this Complete Sentence learning method, students will be actively involved in the learning process and not just sit quietly listening to the teacher's explanation. This learning process is expected to make

students easily understand the subject matter, and the subject matter can be firmly embedded in the memories of students so that students can get good learning outcomes.

The Giving Questions and Getting Answer learning method is oriented toward student activities (student-centered), while the teacher is only a facilitator who directs and assists students in learning [8]. This learning method is active learning that is presented to create a learning atmosphere that is not monotonous and boring. In this learning, students are required to be active and participatory, so with the activeness of students, it is hoped that it can improve student learning outcomes in physics subjects which so far have been felt to be unsatisfactory compared to other topics. The principle of this learning method is that there is an opportunity for students to convey questions, ideas, or opinions during presentations. The aim is to familiarize students with critical thinking and dare to express opinions. Student activities in this method include filling out cards/papers, group discussions, and presentations.

Abdul Rouf conducted this research in 2012, and his research explained that students feel happy and active in the learning process, which can improve student learning outcomes, according to Novita (2016). The use of the Complete Sentence method assisted by media images to enhance social studies learning This thesis explains that students not only listen to the teacher's explanation, students are also actively engaged in learning, such as completing incomplete paragraphs and can improve student learning outcomes with the KKM standard determined by the teacher. Based on the problems described above, the authors raised the research about the Effectiveness of the Complete Sentence Learning Method by Giving Questions and Getting Answers on Students' Physics Learning Outcomes of SMPN 1 Sampaga.

METHOD

This research is experimental in the form of a Pre-Experimental Design. The research design used by this researcher is the "One-Group Pretest-Posttest Design" [9]. In this design, the subject is placed in one class to do a pretest before being given treatment. Then given, the treatment, and after the complete treatment, the following treatment was given a post-test. The treatment results can be known more accurately because they can be compared with the conditions before treatment.

The population in this study were all class VIII students of SMPN 1 Sampaga, namely five classes with 179 students. Sampling was carried out by Probability Sampling using the Simple Random Sampling technique. Members of the population in this study provide equal opportunities for each element. The sample for this research was randomized to class VIII, and the chosen one was class VIIA of SMPN 1 Sampaga with 28 students.

Research instruments are tools used to filter information that can describe research variables. An instrument must be tested for its validity and reliability to obtain valid and reliable data. The instruments used in this study were tests of student learning outcomes, observation, and documentation.

The data obtained from the pretest and post-test results are processed using descriptive and inferential statistics. Inferential data analysis was performed using the t-test. The standards set by the Ministry of Education and Culture are used to classify the level of cognitive learning outcomes of students, as shown in Table 1.

Table 1. Categories of Student Cognitive Learning Outcomes

Level of Competence (%)	Categories
0 – 34	Very low
35 – 54	Low
55 – 64	Middle
65 – 84	High
85 – 100	Very high

RESULT AND DISCUSSION

In research, a pretest was first given, which aims to determine the initial abilities of students. Then proceed with learning activities using a combination of the Complete Sentence learning method by Giving Questions and Getting Answers. At the end of the teaching and learning process, students were given a post-test with the same questions as the pretest questions, with the number of questions 20 numbered 28 class VIIIA students. The data obtained from the pretest and post-test results are processed using descriptive and inferential statistics.

1. **Student Learning Outcomes on the Material of Work and energy Before Using the Combination of Complete Sentence Learning Methods with Giving Questions and Getting Answers in Class VIIIA Students at SMPN 1 Sampaga Kab. Mamuju**

Descriptive data analysis was done on student learning outcomes scores on work and energy material before combining the Complete Sentence learning method with Giving Questions and Getting Answers in class VIIIA students at SMPN 1 Sampaga Kab. Mamuju, which can be seen in Table 2.

Table 2. Distribution frequency and average scores of students' learning outcomes before treatment

Score (x)	Frequency (f_i)	$f_i . x_i$	$x_i - \overline{x}$	$(x_i - \overline{x})^2$	$f_i(x_i - \overline{x})^2$
65	1	65	24.82	616.032	616.032
55	2	110	14.82	219.632	439.265
50	3	150	9.82	96.432	289.297
45	4	180	4.82	23.232	92.930
40	6	240	-0.18	0.032	0.194
35	4	140	-5.18	26.832	107.330
30	8	240	-10.18	103.632	829.059
Zum	28	1125	38.74	1085.827	2374.107

The results of calculating the average score obtained by students after being given a pretest are 40.18 out of a maximum score of 100. Based on the Ministry of Education and Culture guidelines (see table 1), the categories of student learning outcomes will appear in table 3.

Table 3. Categories of cognitive learning outcomes of students before treatment

Level of Competence (%)	Frequency	Percentage(%)	Categories
0 – 34	8	28,57	Very low
35 – 54	17	60,71	Low
55 – 64	2	7,14	Middle
65 – 84	1	3,57	High
85 – 100	-	-	Very high
Zum	28	100	

Based on table 3, the learning outcomes of students on Work and energy material before using a combination of the Complete Sentence learning method with Giving Questions and Getting Answers to class VIII students of SMP N 1 Sampaga Kab. Mamuju is categorized as low. Can be seen in the most significant percentage value shown in the low category, which is equal to 60.71% of 28 students.

2. **Student Learning Outcomes on Work and Energy Materials After combining the Complete Sentence learning method with Giving Questions and Getting Answers in class VIIIA students at SMPN 1 Sampaga Kab. Mamuju**

Table 4. Distribution Frequency and the average score of students' learning outcomes after treatment

| Score (x)	Frequency (f_i)	$f_i . x_i$	$x_i - \bar{x}$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
95	2	190	19.46	378.692	757.383
90	3	270	14.46	209.092	627.275
85	4	340	9.46	89.492	357.966
80	5	400	4.46	19.892	99.458
75	3	225	-0.54	0.292	0.875
70	5	350	-5.54	30.692	153.458
65	1	65	-10.54	111.092	111.092
60	1	60	-15.54	241.492	241.492
55	3	165	-20.54	421.892	1265.675
50	1	50	-25.54	652.292	652.292
Zum	28	2115	-30.4	2154.916	4266.965

The results of calculating the average score ($\bar{x}$) obtained by students after being given a post-test based on the data in table 4 are 75.54 out of a maximum score of 100. Based on the Ministry of Education and Culture guidelines, student learning outcomes can be categorized in table 5.

Table 5. Categories of cognitive learning outcomes of students after treatment

Level of Competence (%)	Frequency	Percentage(%)	Categories
0 – 34	-	-	Very low
35 – 54	-	-	Low
55 – 64	5	17,85	Middle
65 – 84	14	50,00	High
85 – 100	9	32,14	Very high
Zum	28	100	

Based on the categorization of students' cognitive learning outcomes in table 5, it can be concluded that student learning outcomes in the Work and energy material after applying the combination of the Complete Sentence learning method with Giving Questions and Getting Answers are categorized as high. Can be seen in the highest percentage value shown in the high category of 50.00% of 28 students.

Description of the average or mean score of learning outcomes before and after applying the combination of the Complete Sentence learning method with Giving Questions and Getting Answers on Work and energy material in class VIIIA students at SMPN 1 Sampaga Kab. Mamuju can be seen in Figure 1.
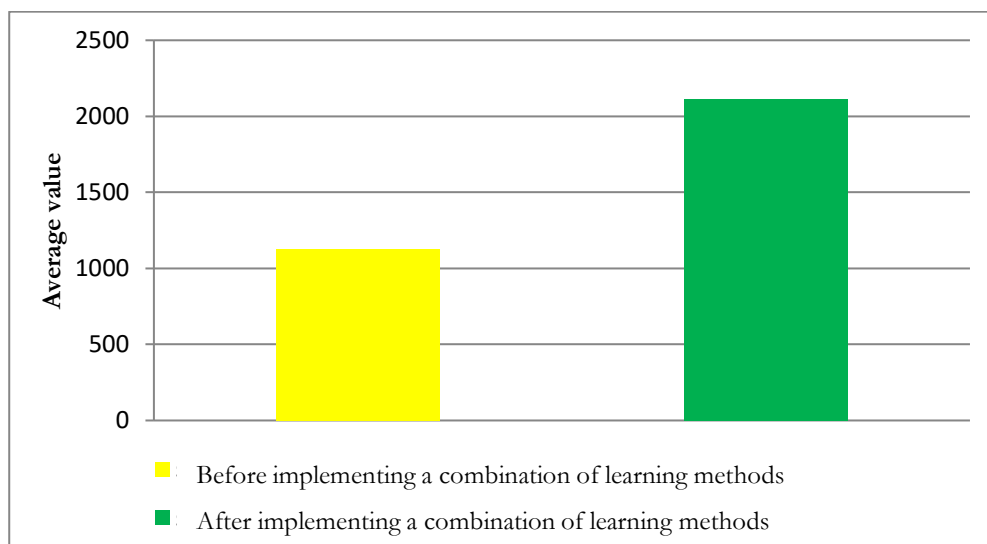
Figure 1. Descriptive Graph of Class VIIIA Pretest-Posttest Learning Outcomes Before and After the Combination of the Complete Sentence Learning Method with Giving Questions and Getting Answers on Work and Energy Materials.

3. Improvement of Student Learning Outcomes on Work and Energy Materials after applying the Combination of Complete Sentence Learning Methods with Giving Questions and Getting Answers for class VIIIA students at SMPN 1 Sampaga Kab. Mamuju

In this section, the researcher uses inferential analysis to process the data obtained in the research so that it will be known to increase student learning outcomes in Work and energy after using a combination of the Complete Sentence learning method with Giving Questions and Getting Answers. In other words, researchers use the t-test as a statistical test. In the t-test procedure, the calculation results of the fundamental level calculation are 5%, and the degrees of freedom (db) is 27, so the t-table value is 2.04. To determine the arithmetic begins with first defining the Gain (d) value between the post-test value and the pretest value, while to determine the gain (d) value, an auxiliary table is used, as shown in Table 6.

Table 6. Analysis of scores before and after implementing a combination of learning methods

Subject	Score of pretest	Score of post-test	Gain (d). (Post-test – Pre-test)	Subject
1	30	85	55	3025
2	30	90	60	3600
3	45	95	50	2500
4	50	70	20	400
5	55	95	40	1600
6	40	55	15	225
7	45	70	25	625
8	40	90	50	2500
9	30	75	45	2025
10	50	70	20	400
11	35	55	20	400
12	50	60	10	100
13	40	85	45	2025
14	35	75	40	1600
15	30	80	50	2500
16	30	65	35	1225

17	45	85	40	1600
18	45	80	35	1225
19	30	75	45	2025
20	30	80	50	2500
21	40	80	40	1600
22	40	70	30	900
23	65	85	20	400
24	30	50	20	400
25	35	55	20	400
26	40	90	50	2500
27	35	80	45	2025
28	55	70	15	225
Jumlah	1125	2115	$\sum d = 990$	$\sum d^2 = 40550$

The result of calculating the mean value (Md) from the difference between the pretest and the post-test is 35.35. The sum of the squared deviations $(\sum x^2 d)$ is 5546.43, so the calculation results from the t count are 13.04.

The final result of the calculations is that the t-count value is 13.04 and the t-table value is 2.04, so based on the test criteria, it can be seen that $t_0 > t_\alpha = 13,04 > 2,04$, which means H_0 rejected.
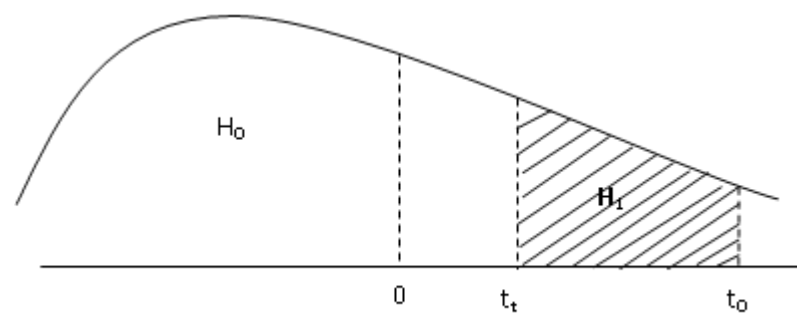

Figure 2. Graph of t-test results

The value of $H_1 > H_0$ allows the researcher to conclude that the hypothesis in this research is accepted because there is an increase in student learning outcomes on work and energy materials after applying a combination of the Complete Sentence learning method with Giving Questions and Getting Answers on energy and work in class VIIIA SMPN students. 1 Mamuju.

CONCLUSION

Based on the research, it can be seen that the physics learning outcomes of Class VIII students of SMPN 1 Sampaga Kab. Moving forward on the subject of Work and energy before using the combination of the Complete Sentence learning method with Giving Questions and Getting Answers is in the low category with an average student score of 40.18 and the type of cognitive results of students which shows the most significant percentage is shown in the low class, namely 60 .71%. After using the combination of the Complete Sentence learning method with Giving Questions and Getting Answers, student learning outcomes are in the high category with an average student score of 75.54, and the cognitive results category of students, which shows the most significant percentage is shown in the high class, which is equal to 50.00%.

Testing the hypothesis states that the belief in this study is accepted because the calculated t value is greater than the t table value. Thus, the authors conclude that combining the Complete Sentence learning method with Giving Questions and Getting Answers improves student learning outcomes on Work and energy in class VIIIA students at SMPN 1 Sampaga Kab. Mamuju.

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