

Implementation of Learning Assistance to Chemistry Learning Motivation of Students in MAN 4 Sleman

Artina Diniaty^{a,*}, Lina Fauzi'ah^a

^aUndergraduate Program in Chemistry Education, Faculty of Mathematics and Natural Sciences
Universitas Islam Indonesia, Sleman, Yogyakarta, Indonesia
^{*}Corresponding author: artina.diniaty@uii.ac.id

ABSTRACT: This study aims to determine the implementation of chemical learning assistance to students' learning motivation. Assistance efforts are carried out by managing the laboratory so that it can be used as a chemistry learning infrastructure, implementation, and discussion of tryout questions of SBMPTN along with the tricks to do them. In addition, chemedutainment is also carried out to motivate students to learn chemistry. The results showed that there were no significant differences in students' learning motivation through the implementation of chemical learning assistance. The implementation of chemical learning assistance needs to be carried out regularly and continuously in order to increase students' learning motivation.

Keywords: learning assistance, learning motivation, chemedutainment

INTRODUCTION

Chemistry is a branch of science that is very close to daily life. Almost all the products used by humans is a result of the application of chemistry. Chemistry is taught explicitly at the level of Junior High School (SMP) in the subject of Natural Sciences. Students at the junior high school level are introduced to the classification of material, such as elements, compounds, molecules, or mixtures. Students at the senior high school level are given material about basic theories of chemistry. Learning outcomes mostly require students to understand the basic concepts of chemistry to be able to provide solutions to the questions given. The application of all the theories that have been given when high school is then given at the level of higher education. This is what makes assumptions on chemistry subjects for high school students tend to be negative.

Senior high school students are required to master the concepts of chemistry which in part refers to sub-microscopic reasoning without knowing the use of theories learned for industry or in everyday life. In line with what has been described previously, students of MAN 4 Sleman stated that they had difficulty in studying chemical subjects. This is evidenced by the average Try Out value (TO) that has been carried out by the Undergraduate Program in Chemistry Education, Universitas Islam Indonesia towards class XII students, which is below 30. Students feel that chemistry subjects are difficult thus lowering their enthusiasm in the learning process. This is proof of the lack of students motivation to learn chemistry.

The problem of students' chemistry learning motivation is expected to be resolved by improving the way the material is delivered. This is related to the design of learning used by chemistry teachers. The use of Education Games can improve learning outcomes, activeness in learning, and mastery of students' language [1]. The use of the snake ladder game learning media received response criteria very well in terms of aspects of students' learning motivation [2]. The snake ladder game can be used as a fun medium in learning. Research conducted by Tiasning, et al. states that the application of Teams Games Tournaments (TGT) can improve the learning activities of students in Batik 1 Surakarta Senior High School. TGT is a learning method with stages of games, matches, and group awards. Through this method, students feel more motivated because they are given the opportunity to be creative through a game that includes elements of education [3].

Based on the discussion that has been described, the problem of learning motivation can be overcome by providing activities that can arouse students' learning motivation through an educational game. The

form of the game can be in the form of learning media that contains information about the usefulness of learning chemistry and the application of chemistry itself in everyday life. Therefore, it is necessary to carry out assistance activities to increase the chemistry learning motivation of MAN 4 Sleman students through Chem Edu Day in the hope that it can have an impact on improving learning outcomes.

METHODS

This research is experimental research to find out about the implementation of chemical learning assistance on the motivation to learn the chemistry of MAN 4 Sleman students. The research was conducted through several stages including the planning, implementation, and evaluation stages. Activities carried out in the planning stage include activities a) identifying problems that exist in MAN 4 Sleman related to chemistry learning, b) preliminary studies to solve existing problems through field studies and literature studies, and c) preparation of research plans. The activities carried out at the implementation stage are activities to carry out the plans that have been compiled and the data collection of research results. Activities conducted at the stage of evaluation is an activity analysis of data obtained from the results of research and evaluate the whole process and the results have been obtained.

This research is an experimental study with one group pretest-posttest design. The research subjects were students of MAN 4 Sleman from 2 classes, XII IPA 1 and XII IPA 2. The study was conducted in MAN 4 Sleman, Harjobinangun, Pakem, Sleman. The instrument in this study was a learning motivation questionnaire. The data analysis technique used in this study begins by changing the criteria obtained from learning motivation data into the form of scores. Furthermore, the scores obtained were analyzed using the SPSS program paired sample t-test.

The hypothesis in this study are:

Ho: There was no significant difference in students' learning motivation through the implementation of chemical learning assistance in MAN 4 Sleman.

Ha: There was a significant difference in students' learning motivation through the implementation of chemical learning assistance in MAN 4 Sleman.

The significance level used is 0.05. If the significance value obtained is less than 0.05, then Ho is rejected.

RESULT AND DISCUSSION

The implementation of learning assistance for MAN 4 Sleman students was carried out through several activities, including laboratory management, Joint Entrance Selection of State Universities try out in science, and chemedutainment. Scores of students' learning motivation before and after learning assistance efforts are presented in Table 1.

TABLE 1. Scores of students' learning motivation before and after learning assistance efforts

Learning motivation score before assistance	Learning motivation score after assistance
92	98
95	100
87	102
91	92
91	78
84	86
90	87
78	92
86	84
99	94

Based on the scores obtained, then analyzed using the SPSS program paired sample t-test so that the results obtained a significance value of 0.477 which means that the significance value is greater than 0.05 so that Ho is accepted that there is no significant difference in students' learning motivation through the implementation of assistance studied chemistry at MAN 4 Sleman. The score of students' learning motivation per aspect before and after learning assistance efforts is presented in Figure 1.

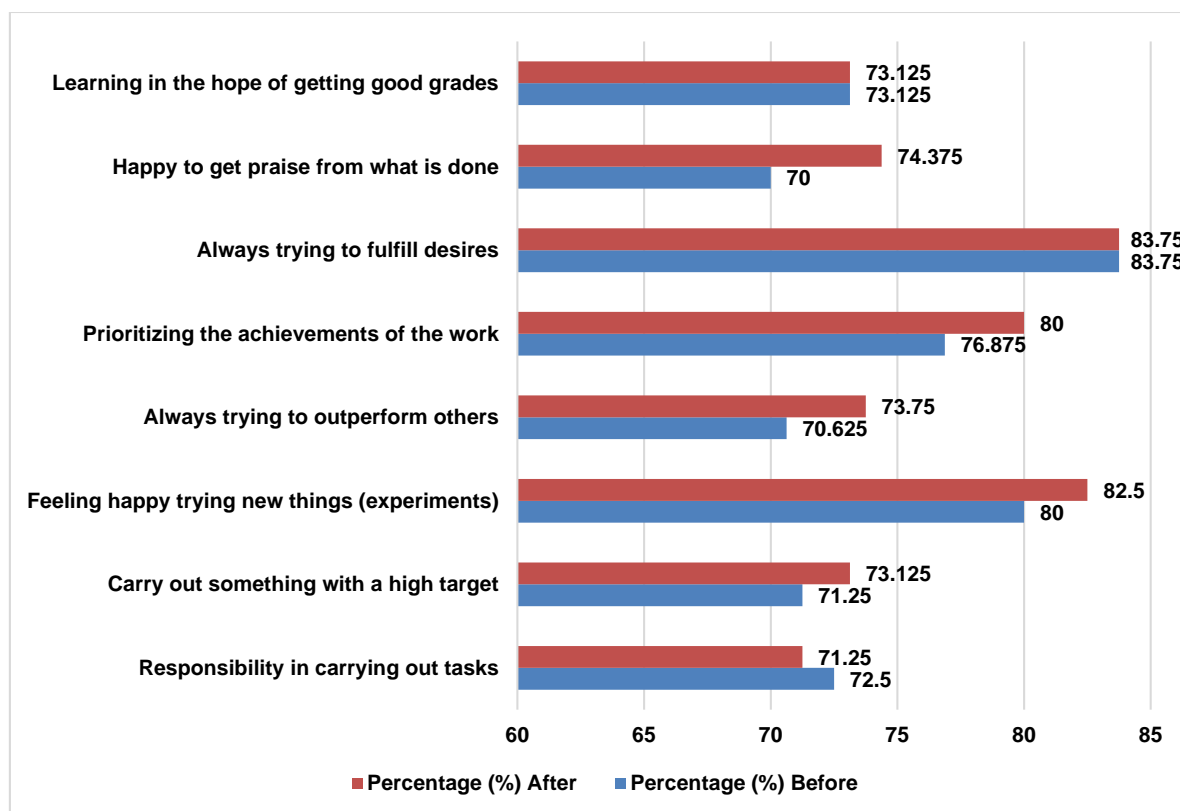


FIGURE 1. Percentage of students' learning motivation per aspect before and after learning assistance

Based on the learning motivation percentage presented in Figure 1, it can be seen that there is an increase in learning motivation percentage before and after learning assistance efforts in several aspects, namely 1) the aspect of doing something with a high target, 2) feeling happy trying new things (experiment), 3) always try to outperform others, 4) prioritizing the achievements of the work, and 5) happy to get praise from what is done. This means that from the eight aspects that exist in the learning motivation of students, it can be seen that five of them experienced an increase in scores between before and after the assistance effort. The absence of significant differences in students' learning motivation through assistance efforts may be due to the assistance efforts carried out through various activities are only limited to one time in each activity. Therefore, efforts to assist in learning chemistry through various activities such as laboratory management, try out, and chemedutainment need to be carried out regularly and continuously in order to increase students' chemistry learning motivation.

Laboratory Management

The management of this chemical laboratory includes a) cleaning of laboratory space, b) cleaning of tools in the laboratory, and c) inventory of tools and materials in the laboratory. The implementation of chemical laboratory management in schools aims to improve the facilities/infrastructure that is important to use in supporting the chemistry learning process. This is according to the research conducted by Katili, et al that the facilities available in the laboratory make a significant contribution to the learning outcomes of students [4]. The availability of good laboratory facilities can support the science process skills of students [5]. Good laboratory management can support the learning process in order to obtain good results as well [6]. The use of laboratories in learning activities through practicum also plays a role in arousing learning motivation of students [7]. Through practical work in the laboratory, students are given the opportunity to fulfill their curiosity [8].

Try out of the Joint Entrance Selection of State Universities in Science

The aim of the Joint Entrance Selection of State Universities science field try-out was to provide training to students in order to prepare them after completing their studies at school and have the desire to continue

their studies to a higher level is in college. The try out was also followed by a discussion of the questions given along with giving tips and tricks on how to do answer the questions quickly and correctly. Hopefully, students become more motivated and make it easier them in working on the questions. When try out discussion took place, students were involved in it. This aims to make students better understand how to solve questions quickly and correctly so that it is easier for students to work on the same type of questions. When students no longer have difficulty in working on the question, the students become happier to always practice working on the other questions.

Chemedutainment

Chemedutainment is a chemical learning activity that is packaged in the form of educational games aimed at increasing students' chemistry learning motivation. The game is done using media designed to be used by many students. Through this chemedutainment activity, students are expected to be more like chemistry and happier and interested in learning chemistry. In line with the research conducted by Supriyono, et al, learning through educational games is able to increase students' learning motivation [9]. Furthermore, increased the motivation to learn the chemistry of students is expected to improve students' chemistry learning outcomes. This is because students 'interest in learning will affect students' learning achievement [10]. When chemedutainment activities take place through educational games, students look enthusiastic to follow them. They are actively involved in these activities until finished. After that activity took place, students revealed that they were happy to take part in the activity. They feel that the activity is a fun learning activity because they can play while learning.

CONCLUSION

Based on the results of research on the implementation of chemistry learning assistance in MAN 4 Sleman, it can be concluded that 1) the implementation of assistance includes laboratory management activities, Joint Entrance Selection of State Universities try out in science, and chemedutainment; 2) there is no significant difference in students' chemistry learning motivation through the implementation of learning assistance; and 3) it is necessary to carry out learning assistance regularly and continuously in order to increase students' learning motivation.

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