Scoring on Multiple-Choice Test and Achievement Motivation on Geography Learning Outcomes

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Abstract
This research aims to determine the effect of scoring on multiple-choice test and achievement motivation on geography learning outcomes. The research used an experimental method with treatment by level 3 x 2 design. Scoring on a multiple choice test is as treatment, achievement motivation is as variable of attributes and geography learning outcomes are as the dependent variable. Research sample consists of students of class XI-IIS 3 SMA N 30 Jakarta, students of class XI-IIS 1 SMA N 77 Jakarta and students of class XI-IIS 1 SMA N 05 Jakarta determined by cluster random sampling with 72 respondents (students). Analysis technique used a two way anava to test the main effect and interaction effect. Based on the research results, reward score and punishment score are more effective in improving the student’s learning outcomes than the correct score. In giving a multiple-choice test, reward score and punishment score can be used as scoring prioritized, especially in students who have high achievement motivation, while correct score can be used as scoring prioritized, especially in students who have low achievement motivation.

Keywords: scoring, multiple-choice test, achievement motivation, learning outcomes


1. Introduction

Geography is one of compulsory subjects in High School educational level, particularly in major of Social Sciences that still have low learning outcomes. It is often considered as a rote, uninteresting, boring, less practical, elusive subject. This causes many students not to like the lesson.

The thing inseparable from the learning outcomes is the learning process. One of factors influencing the learning process is student characteristic. The overall student characteristics could affect the learning process and learning outcomes because they may show the individual quality of students. One of the student characteristics is motivation. The learning activities cannot be carried out well if a student does not have a motivation. [1,2]

Motivation arises from one's internal and external factors such as the existence of reward, punishment, strength, encouragement, need, pressure, passion, responsibility, fear, gift, challenge and threat so that one wants to carry out efforts or activities in order to achieve a goal. [3,4,5]

One of motivation types is achievement motivation. Achievement motivation is the driving force from the inside and outside a person, which becomes an important factor in achieving success by working and striving to achieve a predetermined achievement like in terms of competency, productivity, desire to live in the form of awareness through certain activities by addressing all barriers. [3,6]

Learning outcomes are closely related to achievement motivation. The individual success in achieving a goal cannot be separated from the role of achievement motivation. If the achievement motivation of a person is high, success will be more easily achieved. [7,8] This signals that the achievement motivation is needed in order to improve learning outcomes. Achievement motivation of each person is definitely different. It is very possible for a student who has high achievement motivation to get good learning outcomes, but on the contrary, it is also very possible for a student who has low achievement motivation to get poor learning outcomes.

McClelland said that there were several things that can distinguish a person's level of achievement motivation, namely in terms of responsibility, response to feedback, desire for challenges, creativity, innovation, responsibility and consideration of risks. People who have high achievement motivation will do the tasks that challenge their ability from medium to high level of difficulty, but still under their control, making it possible to complete well, they also like situations where the results obtained arise from the efforts they have done themselves not because of other factors, like feedback on their performance outcomes both success and failure, feel responsible for given tasks, tend to act creatively by finding ways to accomplish the tasks as efficiently and effectively as possible, compared to those who have low motivation. [2,9]
One of the efforts to do to improve the achievement motivation is to make innovations in the learning process including innovation in the learning evaluation. The tool used in the evaluation is in the form of test. Multiple-choice test is a test frequently used by teachers in which one question has several choices, the answer should be selected from those choices because in the choice of answers provided there are one correct answer called answer key and several incorrect answers. [5,10,11]

Thinking about test, it surely cannot be separated from scoring. Scoring is the process of processing test results to change the answers of test questions into numbers. There is a wide variety of scoring on a multiple-choice test. Correct score is scoring by summing the number of correct answers. It is easy to count this scoring, but it cannot motivate students and can cause guessing. Punishment score is scoring by giving punishment in the form of a score on a wrong answer. This of course can lead to passion, motivation and prudence in the face of the test. Reward score is scoring by giving a gift in the form of a score on an emptied answer. With the reward score, passion and motivation are also increased so as to strive to master the learning materials. Correct score, punishment score and reward score use a specific formula in their use. [12,13,14,15]

Therefore, for students who have high achievement motivation if given a multiple-choice test with reward score and punishment score, this will assist them in improving their understanding and mastery of the materials. For students who have low achievement motivation if given a test with reward score and punishment score, this cannot improve their understanding and mastery of the materials. Thus, achievement motivation and scoring on a multiple-choice test are important in achievement of student's geography learning outcomes.

This research aims to determine the effect of scoring on multiple-choice test and achievement motivation on geography learning outcomes of High School students.

2. Method

This research is designed using an experimental method with treatment by level 3 x 2 design as in Table 1.

<table>
<thead>
<tr>
<th>Achievement Motivation (B)</th>
<th>Scoring on Multiple-Choice Test (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (B₁)</td>
<td>Reward (A₁)</td>
</tr>
<tr>
<td>Low (B₂)</td>
<td>Reward (A₁)</td>
</tr>
</tbody>
</table>

The population in this research consists of all students of State Senior High Schools in Central Jakarta. The accessible population is students of class XI SMAN 30 Jakarta, SMAN 77 Jakarta, SMAN 05 Jakarta. Sampling uses cluster random sampling technique.

The research instrument used is achievement motivation and geography learning outcome test, respectively consisting of 40 question items. The instrument of achievement motivation obtained 35 valid question items with reliability coefficient status of 0.902. The instrument of geography learning outcomes obtained 36 valid question items with reliability coefficient status of 0.907.

Treatment was taken by giving 10 questions of multiple-choice test at the end of learning with 8 times of treatment. The test is corrected using different scoring in each treatment group. After the completion of the treatment, geography learning outcome test is given with correct score.

3. Research Findings

In this research, group of students with high achievement motivation and low achievement motivation obtained a treatment of being given a multiple-choice test with reward score, punishment score and correct score. Below is the research result data of each treatment group obtained from the average score of student's geography learning outcomes in a test carried out after the implementation of the treatment.
Based on the prerequisite test, it is found that the requirements of normality are met because all the data groups in this study come from normally distributed population. Likewise with the normality of the data, it is found that the data variance is homogeneous. After the prerequisite test has been met, the hypothesis test is conducted using two-Way Variance Analysis to determine the main effect and interaction effect.

Based on the analysis result Among A, it is found that $F_{hit} = 3.392 > 3.136$, meaning that there is a difference between the geography learning outcomes of the students given a multiple-choice test and reward score, punishment score and correct score. The interaction testing result also shows $F_{hit} = 15.421 > 3.136$, meaning that there is a significant interaction effect between the scoring on a multiple-choice test and achievement motivation on geography learning outcomes.

Because there is a difference among treatment A and interaction occurred, further test was conducted using LSD to determine the simple effect.

The result of the testing performed based on the treatment given shows that there is no significant difference between the geography learning outcomes of students given a multiple-choice test and reward score and punishment score. However, the learning outcomes of both scoring (reward score and punishment core) are higher than those of students given a multiple-choice test with correct score.

The result of the testing performed on group of students with high achievement motivation shows that there is no significant difference between the geography learning outcomes of students given a multiple-choice test and reward score and punishment score. However, the learning outcomes of both scoring (reward score and punishment core) are also higher than those of students given a multiple-choice test with correct score.

The result of the testing performed on group of students with low achievement motivation shows that there is no significant difference between the geography learning outcomes of students given a multiple-choice test and reward score and punishment score. However, the learning outcomes of both scoring (reward score and punishment core) are lower than those of students given a multiple-choice test with correct score.

### 4. Discussion

Findings resulting from this research show that reward score and punishment score are more effective in improving learning outcomes than the correct score. This is because the reward and punishment system has a positive influence to the students, where the positive influence can increase the motivation of students, create positive behaviors such as studying harder and trying to master the materials, bring around and improve themselves to be better, minimize mistakes, increase student understanding, resulting in the increased learning outcomes and the reached achievement.

This is consistent with what was said by Thoifuri that reward and punishment are reinforcement. Reward is considered as a preventive and representative teaching medium to make happy and be a motivator for students. [16] Reward has a better effect in teaching. Reward is able to create objective competition of learners to do positive and aggressive things, and can motivate other students to study harder. Thinking about correct score, this scoring has no challenge so that there is nothing to excite students. This score only causes the test participants to speculate in answering the test, if the test participants do not master the materials. This leads to a tendency of learners not to learn to understand the lessons.

Findings resulting from the research also show that there is interaction effect between scoring effect on a multiple-choice test and achievement motivation on student's geography learning outcomes. It gives the sense that it is important to choose the scoring on a multiple-choice test in the evaluation of geography learning, taking into account the achievement motivation owned by the students.

Interaction occurring between scoring and achievement motivation on learning outcomes is pursuant to the opinion of Alma (2012:30) that the reinforcement can give a positive response to a particular behavior of the students enabling such behavior recur, the objectives of which are to improve student's attention, raise motivation, result in a productive learning behavior and lead to a better way of thinking. In line with this, [17] Suryabrata stated that the motive (motivation) including achievement motivation encouraged individuals to undertake certain activities in order to achieve a goal such as high learning outcomes to achieve an achievement. Assessment can be a powerful motivator to achieve the expected results and the desired learning objectives. [18]

The further findings of the research show that it is more effective to give a multiple-choice test with reward score and punishment score instead of correct score to students who have high achievement motivation. Students who have high achievement motivation, if given a multiple-choice test with reward score will learn seriously because they are interested in the score given. The granting of the test can be responded well because of the students' characteristics; such as they like accepting the challenges, are tough, try to excel from other friends, continue to pursue success so as to obtain a satisfactory result. Unlike students who have high achievement motivation, but given a multiple-choice test with correct score. Students with such characteristics would consider that the test with this scoring is common and does not provide the challenge so that their motivation will not increase.

The findings are in line with the opinion of Sanusi stating that the achievement and learning outcomes can be identified, among others, by high achievement motivation. [19] Students who have high achievement motivation are very appropriate and will make good progress when there are things that can increase their motivation such as reward score and punishment score as reward itself has a positive influence in people's lives, which may encourage a person to improve his/her behavior and improve his/her efforts. In addition, the reward will not either reduce or eliminate such behavior in a person.

The further results of the research show that it is more effective to give a multiple-choice test with correct score instead of reward score and punishment score to students who have low achievement motivation. Students who have low achievement motivation, if given a multiple-choice test with reward score and punishment score will not be able to respond well because they are not interested
in the scoring given. This causes them not to really take the test, not to attempt to do the test properly because they do not dare to take risks because basically the students are not realistic, do not like the feedback on the outcomes achieved, feel disturbed at the failure obtained and are reluctant to pursue success.

However, if the students who have low motivation are given a multiple-choice test with correct score, they will get more effective learning outcomes. Such scoring does not have a challenge, so the students can choose the answer from every question without any risks arising from the answer. This allows the students to guess one of answers if the students do not master the materials being tested. If the guessed answer is correct, it will increase the score so that the learning outcome score obtained will be higher.

5. Conclusion

Based on the results of the research and discussion, it can be concluded that in general the learning outcomes of students who are given a multiple-choice test with reward score and punishment score are higher than geography learning outcomes of students who are given a multiple-choice test with correct score. There is interaction between the scoring of multiple-choice test and achievement motivation on geography learning outcomes. In terms of student's achievement motivation, reward score and punishment score are more suitable for students who have high achievement motivation, while correct score is more suitable for students who have low motivation. So, the scoring technique is an integral part of assessing the student's learning outcomes. The right scoring at a test will definitely be able to improve learning outcomes, especially if adapted to the characteristics of students.

References