

# Constructing Distractors of Multiple-Choice: Students' Obstacles Analysis

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**Abstract**—The objective of study is to identify and analyze the obstacles faced by students in constructing options and distractors of multiple choice questions. The study is conducted qualitatively by using descriptive method to describe and analyze students' obstacles. Questionnaires, Interview and documentation used as tools of data collection. Students who join language assessment lecture/subject are taken as respondents, and chosen purposively. As findings of this study, the students found many obstacles in constructing distractors of multiple choice question. The most dominant obstacle is found in constructing option that are similar to the key answer of the question.

**Keywords**—*constructing distracter; multiple choice; obstacle analysis*

## I. INTRODUCTION

The success of a learning process can be known by conducting test of learning outcomes in an educational unit. Testing student learning outcomes is one way that can be done to determine student progress toward curriculum that has been taught in a certain time. Although it is not the only way to uncover student learning outcomes, but also it is an effective measurement tool used because of its practical and low cost.

As a tool to measure the ability of students after participating in educational activities, the existence of a measuring instrument becomes very important. A good measuring instrument will be able to reveal the true state of the students, and vice versa if the measuring instrument is not good then it will not be able to reveal the abilities of the students. Additionally, it is impossible to know the needs and abilities of the students without testing them [1].

Multiple-choice test has all the requirements as a good test tool, in terms of objectivity, reliability, and distinguishing between successful students and failed students. Another thing that are the advantages of MC because it is fast scoring, easy, and objective. Additionally, it is tends to be quick and without subjective bias of evaluator [2]. Various cognitive levels can be measured by this test, started from simple recall of knowledge to more complex levels, and the test can be used in every situations [3]. On the other hand, MC has disadvantages they are low critical thinking, easy to guess and low positive wash back because the answer has already been provided [4].

Multiple-choice becomes one popular measurement tools especially in education. It is used starting from primary school up to the university level. School of education in university level provide special subject or lecture about constructing test instrument. One of the instrument test constructed is multiple-choice. It is considered as a measurement tool that has a structured objective nature that asks participants to choose the correct answer from the several options provided. This objective test consists of problems and list of alternative solutions. The list of alternative solutions can be words, numbers, symbols or phrases, and are called key answers. Test takers are usually asked to read questions and list alternative solutions, and choose the right or best alternative [5]. The right option for each item is called the answer key, while the other options are called distractors. It calls distractors because the option consists of incorrect or inferior alternatives.

Multiple-choice is categorized as standardized test. It is a part of evaluation science which has already been used around the world especially in education field which is intended to measure students' competency cognitively [6]. It is stated as standardized test because some of the international test competency used this kind of test. Such as Test of English as Foreign Language (TOEFL), Test of English as International Communication (TOEIC) even used as measurement tools for college entrance.

Thus, some universities who has faculty of teachers and educational sciences trained their students how to construct a set of multiple-choice as standardized test. This competency should be mastered by the teachers candidate because they will hold the assessment formatively or summatively to measure students' achievement. Unfortunately, constructing multiple-choice is not as easy as correcting it. It is started from constructing stem as stimulus which can be in the form of statement or question and constructing list of possible response options [7].

## II. METHODS

The study conducted qualitatively by using descriptive method. It is intended to identify and analyze students' obstacles specifically in constructing distractors. The respondents are students of education school who join language assessment lecture/subject and chosen purposively. Questionnaire, interview and documentation are use as tools of data collections. The questionnaires are delivered to the

students, the interview is delivered to the lecturers, and the documentation is captured their activity during constructing multiple-choice. The interview and documentation result are analyzed and selected based on the problem. Identifications result are displayed and described narratively. While the questionnaire result is used to support the previous data. It is analyzed using descriptive statistics which is tabulated and converted to percentages.

III. RESULTS AND DISCUSSION

Data that have been collected and analyzed to produce an in-depth finding of the causes and obstacles faced by students in constructing distracters of multiple-choice. Based on questionnaires delivered to the respondents, there are three main obstacles faced by students who trained to construct multiple-choice and its distracters. The following figure presents the top tree of students' obstacles.

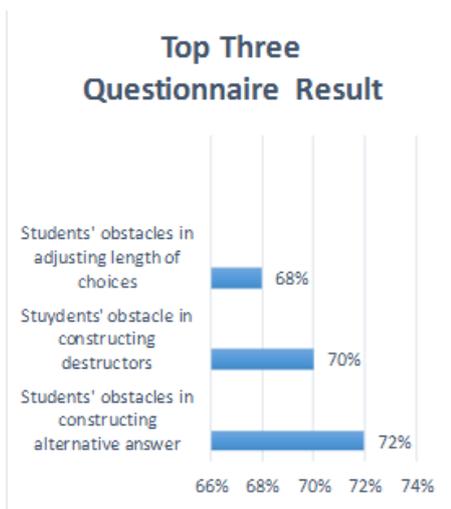


Fig 1. The top three of questionnaires result

The figure explains that as much as 68% from the respondents face obstacle in adjusting length of choice or option. As much as 70% respondents face difficulties in constructing distracters and 72% respondents face difficulties in constructing alternative answers. It can be concluded that the dominant obstacles are in constructing distractors.

The results above were strengthened by following interview results. Some respondents found difficulties because they have to find the proper options which can function as distracter. The students think it is hard because they also have to make the distractor similar to the answer as mentioned by R#10 in excerpt 1,

*"... yaitu ketika memilih kalimat yang hampir mirip dengan jawaban yang benar..."*

[it is when choosing the sentence which is similar to the answer]

The excerpt one shows students' problem in choosing distracters as a part of multiple-choice option. It is supported by the following excerpt 2 which describe similar reason.

R#4 also mentioned the similar thing in excerpt 2,

*"Mencari pengecoh yang sesuai atau selaras dengan opsi lain agar tidak terlalu terlihat bahwa itu adalah pengecoh (berfungsi sebagai pengecoh), karena kemiripan dengan jawaban yang seharusnya"*

[Is to find out the destructor that is in line with the other options so it can function well as a destructor because it is similar to the answer]

Regarding to those two statements, it can be simplify that constructing destructor of Multiple-Choice is rarely hard due to some conditions that need to consider; such as finding out the words or sentence which function well as distracters.

Another reason that complicate students to construct a destructor of MCQ is finding out the word or meaning which is suitable with the correct answer. In another words, they find it difficult to find homogenous options. This conclusion is as cited by R#5 in excerpt 3,

*"... ketika memilih kata-kata yang homogen karena sulit sekali untuk mencari kata-kata tersebut"*

[It is hard to find the homogenous words]

The statement above shows that the students may face difficulties to find the distracter which has the same length with the others options. It is intended so that test takers are not easy to find the correct answer. Besides, the distracter also has to be the same in terms of its type, whether it is noun, verb, adjective, and etc. A similar answer was also mentioned by R#12 in excerpt 4

*"... pada saat merancang opsi yang sifatnya sejenis. Namun dapat memacu siswa untuk berpikir dan terkecoh."*

[When constructing the similar answer but it has to create the students' critical thinking at once and can make them destructed]

Since constructing a destructor is hard, the students cannot make it as they want. They have to think about the way how to make the destructor work and can destruct the students. However, this destructor should be able to create the students' critical thinking towards the issued asked in the question. Despite a vast body of literature on multiple-choice testing, the task of creating distractors have received much less attention [8]. On the other hand, a destructor must be grammatically correct. It cannot be built grammatically-different with the other options.

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#### IV. CONCLUSION

Multiple-choice is one of standardized test in the world. It is used as measurement tools to know someone achievement in various fields. Thus, this is the reason why students of education school should have the ability of constructing it. Unfortunately, creating multiple-choice is not easy for them, because they should construct good stem and options. Not only both of the stem and the options which are considered difficult but also creating distractors are very complicated, even being the main obstacles found by students. Thus, the comprehension of the constructing MC concept should be strengthened in order to create MC as good as possible.

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#### REFERENCES

- [1] T. Tshabalala, & A. C Ncube, The effectiveness of measurement and evaluation in Zimbabwean primary schools: Teachers and heads' perceptions. *International Journal of Innovation and Applied Studies*, 2014 8(1), 141–148.
- [2] K. A. Patel & N.R. Mahajan, Itemized Analysis of Questions of Multiple Choice Question Exam, *International Journal of Science Research*, vol 2 issue 2, February 2013. pp. 279.
- [3] S. J Burton, R.R. Sudweeks, P. F. Merrill, and B. Wood, *How to Prepare Better Multiple-Choice Test Items: Guidelines for University Faculty*. Brigham Young University Testing service and The Department of Instructional Science. 1991, pp. 4.
- [4] N. A. Rachmat & P. Arfiandhani, I Use Multiple-Choice Question in Most Assessment I Prepared: EFL Teachers' Voice on Summative Assessment. *English, Teaching, Learning and Research Journal*. Vol 5, Number 01. 2019. Pp. 166.
- [5] N. E Gronlund, *Measurement and evaluation in teaching* (4th ed.). Cliffs, 1982. NY: Macmillan. pp 135.
- [6] I. Irdiyansyah & T. Rizki, Teachers' Perspective on Standardized Test, *Journal of Humanities and Social Studies*. Pakuan University. Bogor, 2018. vol. 02 no 01, pp 18.
- [7] M. H. Towns, *Guide to Developing High-Quality, Reliable, and Valid Multiple Choice Assessments*, journal of Chemical Education. American Chemical Society and Division of Chemical Education, Inc. 2014, pp. 1426.
- [8] M. J. Gierl, O. Bulut, Q. Gio & X. Zhang, *Developing, Analyzing, and Using Distractors for Multiple-Choice Tests in Education: A*