



Evaluation of the Goals and Objects of Assessment of Aspects of Student Learning through Bloom's Taxonomy

Muhammad Rizwan Ilhami

Magister in Islamic Education, Postgraduate Program, Antasari State Islamic University, Banjarmasin

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ABSTRACT

This research aims to determine student performance at the very difficult basic education level. Education in the modern era requires a lot of evaluation that focuses on research targets and objects. One of them can be viewed from the aspects in Bloom's Taxonomy. Bloom's Taxonomy is a technique developed by Benjamin Bloom in 1956. This research uses descriptive qualitative research methods. The results of this study indicate that student assessment is an important part of education and is carried out through the examination process and that test question paper readiness has reliably involved schemes. Bloom's Taxonomy consists of three progressive models that are used to group instructive learning objectives into dimensions of multifaceted and explicit nature. Lists of cognitive domains have been the primary focus of much of traditional education and are often used to structure curriculum learning objectives, assessments and activities. Bloom's Taxonomy is a tool that can help human services educators broaden the depth of their students' learning. There are four classifications of learning worth noting: verifiable, applied, procedural, and meta cognitive.

*Corresponding Author:

Muhammad Rizwan Ilhami

Magister in Islamic Education, Postgraduate Program, Antasari State Islamic University, Banjarmasin

Email: ilhamirizwan@gmail.com

INTRODUCTION

The development of human resources is directly related to the implementation of a more modern educational culture today. Education is an effort made by teachers as educators to produce a generation that is able to compete in the future. Teachers are responsible for managing all learning activities and ensuring that educational goals are achieved. This refers to the ability to compete in the future which is one of the main components of education itself. It was different from the previous era because only certain groups could get educational facilities. However, now all community groups can also get it. One of the educational efforts to develop a more advanced generation is that it is necessary to carry out learning evaluations that focus on the targets and objects of assessment, So this is the background for this research to develop efforts to evaluate learning that focuses on the targets and objects of research through training and teaching as a provision for students to live in society.

The term evaluation, which focuses on the targets and objects of research, is widely known by educators in Indonesia in line with the increasing development of the world of education in the current modern era. Evaluation is a series of observations that provide insight into how a student learns from their current level of knowledge, skills and abilities. Evaluation of the learning process is of course always implemented at every level of education. However, this evaluation process is widely used at primary to secondary education levels. So the purpose of conducting an evaluation that focuses on the targets and objects of research at the basic education level is to find out the level of student learning growth, student interests and talents, characteristics and social skills of students, students' understanding of the material presented, as well as the quality from the curriculum and syllabus that have been prepared.

This evaluation is directly related to the term taxonomy which is widely used in grouping instructional objectives because taxonomy in the world of education is divided into three domains, namely (1) cognitive scope which focuses on students' thinking abilities; (2) affective scope which focuses on students' moral and emotional abilities; and (3) psychomotor scope which focuses on motor abilities. There are many instructional taxonomy terms such as Merrill, Gagne, Martin and Briggs, and Bloom. However, this research refers to the term Bloom's Taxonomy because it is widely applied at all levels of education.

The implementation of Bloom's Taxonomy in the evaluation process through targets and objects for assessing aspects of student learning makes it easier for educators or teachers because there is a classification of three aspects of learning that need to be assessed, namely the cognitive scope aspect, the affective scope aspect, and the psychomotor scope aspect. Based on the results of research by Suharman and Romadhona on the competency test of Class of 19.26%. Then, from the results of research by Lubis and Widiawati in studying the level of spiritual education of Al-Ghazali elementary school students through Bloom's Taxonomy classification into 2 classifications consisting of the study of the Book of Ayyuhah and the Book of Walad, it was found that the development of learning outcomes in the cognitive and affective aspects through observation of the actualization of positive characteristics on students at Al-Ghazali Elementary School.

The results of previous research show that analysis of aspects of Bloom's Taxonomy provides many significant results on aspects of student learning. Therefore, the research entitled "Evaluation of Targets and Objects of Assessment of Aspects of Student Learning through Bloom's Taxonomy" was carried out with the aim of finding out how the process of developing student learning achievement at the basic level through evaluation of targets and objects of assessment based on aspects of the Taxonomy Bloom.

METHOD

This research uses a qualitative research method through a descriptive approach by explaining how a phenomenon starts from the subjects involved, the relationships between variables, as well as existing numbers and data. Data collection techniques use literature studies or library studies through research reports, books, journal articles and other media sources. Then for the data classification technique, the sources obtained from the previous literature study were grouped into 8 based on keywords, namely Bloom's Taxonomy, educational evaluation assessment, research targets, research objects, learning aspects, cognitive, affective and psychomotor. Then the data analysis process uses comparative analysis from the theoretical review with the results of previous research discussions within the scope of Bloom's Taxonomy, educational evaluation assessments, research targets, research objects, learning, cognitive, affective and psychomotor aspects.

RESULTS AND DISCUSSION

Organoleptic Examination

Table 1. Sample Distribution Based On The Results Of Organoleptic Examination Of Arak Drinks

Sample code	Color	Smell	Taste
S.1	Yellowish white	Typical aroma of alcohol	Tasteless
S.2	White is a bit clear	Smells sour	Sour
S.3	White is a bit clear	Slightly sour smell	A Bit Sour

Data Source: Research Results In 2023

Bloom's Taxonomy is a multilevel model that classifies thinking according to six levels of cognitive complexity. Over the years, these levels have often been described as a ladder, leading many teachers to encourage their students to rise to higher (levels of) thinking. The three lowest levels are knowledge, understanding, and application. The three highest levels are analysis, synthesis, and evaluation. Taxonomy is hierarchical or multilevel because each level is combined with a higher level. In other words, a student who functions at the application level has also mastered the material at the knowledge and understanding level. This means that we can easily see and judge between low and high level thinking. Clearly, Bloom's Taxonomy has stood the test of time, so there are revisions.

The structure of the knowledge dimensions of Bloom's Revised Taxonomy is Factual Knowledge, Conceptual Knowledge, Procedural Knowledge, and Metacognitive Knowledge.

Assessment

Assessment and Evaluation are two different concepts with a number of differences between them starting from the objectives and focus. Before going into details about these differences that distinguish assessment and evaluation, let's first pay attention to the two words themselves. Evaluation is estimating or determining the value of something. Evaluation is used to assess whether students' thinking has developed correctly and whether programs and activities have achieved educational goals. Verbal tests consisting of question items are one way to evaluate cognitive learning outcomes. So, these processes are very often used in the field of education to test the quality of the teaching and learning process. One example of an aspect of assessment that focuses primarily on knowledge is likely to promote superficial learning. On the other hand, if we choose assessment strategies that demand critical thinking or creative problem solving, we tend to realize higher levels of student performance or achievement.

As stated above, assessment refers to a series of related measures used to determine complex attributes of an individual or group of individuals. This involves collecting and interpreting information about a student's level of achievement of learning goals. This is different from an evaluation because an evaluation compares a student's performance with other students or with a set of standards. The assessment is used as a continuous management and learning tool to improve learning, including five basic components, namely first, articulating the goals of the education system; second, identify and collect relevant information; third, have ideas that are valuable and useful for students in their lives and professions; fourth, analyzing and interpreting information for students; and finally, class management or class decision making.

Assessment and evaluation are related to instructional objectives and learning activities in the classroom and are indispensable elements in the learning process. Both are useful for collecting data or information needed for various purposes. The significant differences between assessment and evaluation are discussed in the points given below which are summarized from what can be seen in.

Table 1. Difference between assessment and evaluation on learning outcomes

Information	Assessment	Evaluation
Process	Collect, Review and Analyze Learning Outcomes Data	Assessment Based on Criteria and Evidence
Scope	Diagnostics Based on Areas of Improvement	Diagnostics Based on Overall Value
Input	Future Performance	Standards Met
Goal	Formative	Summative
Focus	Learning Process	Learning Output
Parameter	Positive and Negative Value	Established Standards
Relation	Reflective	Perspective
Criteria	Determined Together	Determined by the Evaluator

Data Source: Al-Arabi, et.al

Assessment Targets

Input

The positive qualities and characteristics of good prospective students can be seen through a series of tests and observations based on the measuring instruments used and the aspects used as guidelines. In the research target input, the spiritual aspects of students include four things, namely as follows:

Ability

Capability input to prospective students aims to provide information about sources that can be used to achieve program objectives. The target of assessing the candidate's abilities is to: find problem solving strategies, planning and program design. In learning activities, input evaluation can also be carried out to look for sources that can be used in the learning process so that they can function to determine appropriate learning strategies. One example of this assessment target is that prospective students who will enroll themselves in basic education need to be assessed first based on general abilities through a series of tests such as the attitude test.

Personality

Personality plays an important role in education. The best personality development school is a school where we learn about ethics, behavior and how to gain self-esteem. Personality helps to have a positive impact on one's communication skills and the way one sees the world.

Personality itself is a description of human emotional abilities seen from behavioral and characteristic aspects. In order to assess student personality, a series of observations and tests are needed slowly. One example of a tool that can be used to assess a student's personality is through a personality test.

Attitudes

Attitude is the main part of each individual's characteristics which can appear automatically when a person carries out an interaction. However, specific information through educational assessments for prospective students is highly expected because attitude factors have a big impact on students' future emotional abilities. So a series of tests such as a personality test are needed whose parameters can be measured using an attitude scale.

Intelligence

Intelligence tests are often used as student assessment targets because many experts have succeeded in developing a series of intelligence tests. One of the intelligence tests that is widely used in education is the Binet-Simon, Tintum, and SPM tests. The results obtained from this intelligence test include scores IQ (Intelligence Quotient).

Transformation

Implementing transformative learning in training and coaching sessions is beneficial because it accelerates the speed at which employees understand the necessary information. The main goal of transformative learning is to acquire rational and emotional skills to make critical reflections by developing new perspectives and structures of meaning. In transformation, there are several elements that are used as targets and objects in the assessment, namely: 1) Learning material syllabus or curriculum; 2) Assessment method; 3) Educational facilities and learning media; 4) Education administration; 5) Personal teaching staff and teachers.

Output

Output is defined as an assessment of the positive and negative effects of the strategy, implementation, methodology, and calculated results. Results are measurable and can help set new goals and strategic plans for the future. However, if the desired results are not achieved, then current policy re-planning needs to be carried out to achieve the desired goals in the future. One tool that is widely used in output assessment is achievement test.

In an educational context, assessment is carried out effectively with implications for educational programs so that students can strive to achieve high grades, better employment statistics, and high graduation rates. Educational output benefits students through implementing appropriate educational programs (educational planning and pedagogy) and delivering the curriculum. In a competitive and dynamic world, educational output can be achieved by understanding student needs, constraints, priorities, challenges and problems faced.

Assessment Object**Cognitive Aspect**

Student assessment objects in schools are part of the learning process to reflect individual student understanding and measure progress. In assessment, domain is a cognitive aspect and is part of the assessment of intellectual abilities related to student knowledge. This cognitive domain itself is found in all brain activity in students.

All cognitive learning activities are directed at encouraging students to work through a variety of problems and stimuli. The goal is to get them to think and apply problem-solving strategies without using preparation or steps that lead to the answer. We wanted to create activities that would have our students apply logic, creativity, and close examination on the spot to produce answers. Cognitive learning basically depends on five principles, namely remembering, understanding, applying, evaluating, and creating.

Cognitive learning centers on adapting to new stimuli and establishing methods for solving problems or meeting needs. Creative activities depend on students to generate original ideas to solve clues, organize thinking, and devise their own means of discovery that will help them answer problems. These are just a few examples of activities to develop cognitive aspects, such as: (1) Writing original poetry; (2) Perform or write a screenplay that shows a theme or illustrates certain ideas; and (3) Write a manual or guidebook that shows important information.

Affective Aspect

Affective is a domain related to student behavior. Student behavior can be seen from students' attention to learning, discipline, motivation to study, respect for teachers and friends, students' habits, and students' social relationships with other people. The affective domain is organized according to the extent to which attitudes, feelings, values, or emotions have become part of the individual.

In this case, the teacher will know about this information from the students' attention to the lesson. The students are interested in the lesson topic which can be seen from their enthusiasm in participating in learning activities. Their discipline towards lessons is also a standard in assessing the affective domain. This can be seen from students' efforts in attending class and submitting projects on time. Students' motivation towards learning, their appreciation of the teacher, and their adaptation to the social environment indicate the students' affective domain.

It has been stated that examples of affective aspects in education such as students' attitudes, interests and values are important because they usually influence students' future behavior. So, it is necessary to promote a positive attitude towards learning because students who have a positive attitude towards learning today will be influenced for their success in the future. A positive attitude will be marked in their life. The affective aspect in Bloom's Taxonomy itself is divided into 5 aspects, that is: 1) Learning material syllabus or curriculum; 2) Assessment method; 3) Educational facilities and learning media; 4) Education administration; 5) Personal teaching staff and teachers.

Psychomotor Aspect

Psychomotor observation requires coordinated action between established protocols, approaches and methodologies in the motor field, which conform to the traditions and constraints of educational research. In childhood, educators are called upon to work together in various areas of study. Therefore, they need soft skills and a wealth of knowledge, general and specific skills and resources that significantly characterize their professionalism. The versatile and dynamic nature of psychomotor observation presupposes a careful analysis of the variables that can influence actions. In particular, the environment in which the child moves becomes an object of interest for the teacher.

The evaluation procedure is part of accurate observation of children's daily activities in the school and family environment. The checklist consists of five parts, four of which concern increasingly complex interactions between the child and his environment consisting of perception (perception), readiness (set), guided movement (guided response), habitual movement (mechanical response) performing an action, complex movements (complex responses), adjustment of movement patterns (adjustment), and creativity. Therefore, psychomotor observation is organized with the necessary settings and is built taking into account contextual circumstances, aimed at early identification of motor difficulties in view of the educational program.

CONCLUSION

A teacher must find ways to address demonstrating that student learning has occurred. One type of inspection alone will not be sufficient to examine most of the required objectives and outcomes. For exams to be successful, educators must expand the assessments used during the course's instructional transport. This research discusses the implementation of evaluation on targets and assessment objects using Bloom's Taxonomy in the scope of basic education in Indonesia.

From the discussion in this research, the results have been obtained that there are many applications in various structures using Bloom's Taxonomy. Bloom's Taxonomy can be used to encourage consideration of how to measure the thinking capacity of increasing numbers. As educators, teachers must continually evaluate how well students are progressing to determine when the opportunity has arrived to move forward or when fortification is necessary. Whether it is an associated teacher making arrangements for an exam, a student expecting to research a more prominent measure of mountain conditions, a section in a professional program trying to test the substance of a theory or oneself deciding whether the teacher is ready, using scientific categorization is a strategy that interesting and proven to choose skills for each student.

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