Taxonomy of Educational Goals and Evaluation of Learning Outcomes

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ABSTRAK

Penelitian ini bertujuan untuk mengeksplorasi implementasi taksonomi tujuan pendidikan pada evaluasi yang akan terjadi untuk meningkatkan kualitas proses pembelajaran. Pendekatan yang digunakan ialah metode kualitatif, menggunakan pengumpulan data melalui studi literatur, analisis dokumen, serta wawancara mendalam dengan pendidik dari berbagai jenjang pendidikan. Kerangka analisis yang digunakan merujuk pada taksonomi Bloom yang diperbarui, mencakup domain kognitif, afektif, serta psikomotorik. hasil penelitian menunjukkan adanya penguasaan penekanan pada domain kognitif tingkat rendah, seperti mengingat serta memahami, sementara pengembangan kemampuan tingkat tinggi, seperti menganalisis, mengevaluasi, dan mencipta, kurang mendapat perhatian yang memadai. Selain itu, domain afektif dan psikomotorik cenderung diabaikan dalam proses perencanaan pembelajaran, meskipun domain ini berperan krusial dalam mendukung pembentukan karakter serta keterampilan praktis siswa. Penelitian ini menyimpulkan bahwa implementasi taksonomi tujuan pendidikan yang seimbang dapat memperkuat relevansi dan efektivitas pembelajaran, serta merekomendasikan peningkatan pelatihan pendidik dalam menyusun tujuan serta evaluasi hasil belajar yang lebih keseluruhan.

Keyword: Evaluasi Hasil Belajar; Pembelajaran; Taksonomi Pendidikan; Tujuan Pendidikan

ABSTRACT

This research aims to explore the implementation of a taxonomy of educational objectives in the assessment of learning to occur in order to improve the quality of the learning process. The approach used is a qualitative method, using data collection through literature study, document analysis, and in-depth interviews with educators from various levels of education. The analytical framework used refers to Bloom's updated taxonomy, covering cognitive, affective and psychomotor domains. The research results show that there is an emphasis on mastery of low-level cognitive domains, such as remembering and understanding, while the development of high-level abilities, such as analyzing, evaluating and creating, does not receive adequate attention. Apart from that, the affective and psychomotor domains tend to be neglected in the learning planning process, even though these domains play a crucial role in supporting the formation of students' character and practical skills. This research concludes that implementing a balanced taxonomy of educational objectives can strengthen the relevance and effectiveness of learning, and recommends improving educator training in setting objectives and evaluating learning outcomes more comprehensively.

Keyword: Evaluation of Learning Outcomes; Learning; Educational Taxonomy; Educational Objectives

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1. INTRODUCTION

The world of education today is experiencing very rapid changes both in terms of standards and quantity of educational institutions as well as various aspects of the education delivery process, such as learning systems, methods, tactics and teaching and learning theories. As a result of these developments, of course there is a lot of interest in formulating educational services that are in line with religion, norms, culture and life values while still paying attention to advances in science and technology. (Muliyah, et.al., 2020).

Education is one of the main pillars in developing quality human resources. The learning process not only aims to transfer knowledge, but also forms character, skills and competencies needed in life. To achieve this goal, formulating clear and measurable educational goals is an important step. One framework that is often used to formulate educational goals is the taxonomy of educational goals, as developed by Bloom and updated by subsequent researchers.

Etymologically, the word taxonomy comes from the Greek taxis and nomos. Taxis means 'arrangement or division' and nomos means law. So etymologically, taxonomy can be interpreted as a law that regulates something. Taxonomy can be interpreted as grouping things based on certain hierarchies (levels). Where the higher taxonomy is more general and the lower taxonomy is more specific. Taxonomy can be described as a relationship between father and son who are in a hierarchical structure that is connected to one another. Taxonomy is a framework for classifying statements that are used to predict students' ability to learn as a result of learning activities. The taxonomy of educational objectives provides guidance for designing learning that includes cognitive, affective and psychomotor domains. However, in practice, there is often inequality in the application of this taxonomy. Many educators focus more on low-level cognitive domains, such as remembering and understanding, while higher-level domains, such as analyzing, evaluating, and creating, receive less attention. Apart from that, the affective and psychomotor domains are also often neglected, even though both have an important role in forming a complete individual. (Magdalena et al., 2020).

On the other hand, evaluation of learning outcomes plays an important role in ensuring that learning objectives have been achieved. Through careful evaluation, teachers can measure student understanding, skills, and attitudes, as well as provide valuable feedback to improve future learning. (Education, 2024) Evaluation not only functions to measure student achievement levels, but also serves as a reflection tool for educators in developing more effective learning strategies. Therefore, the relationship between the taxonomy of educational objectives and the evaluation of learning outcomes is a focus that needs to be studied in more depth. This research aims to examine the implementation of a taxonomy of educational objectives in evaluating learning outcomes, as well as providing recommendations for increasing the effectiveness of learning at various levels of education. With this approach, it is hoped that a holistic and sustainable education process can be realized.

2. RESEARCH METHOD

This research method uses qualitative methods. This research model uses library research, with inductive and deductive analysis obtained from several literature analyses. This research, called library research, is a process of understanding textual data, then the author interprets it using analytical descriptive methods, specifically starting with systematic and consistent data collection, then analyzing, selecting and combining to draw further conclusions. With the deductive analysis method, specific conclusions are drawn from general problems. The results of this method are expected to provide a comprehensive picture of the practice of implementing a taxonomy of educational objectives in evaluating learning outcomes and provide recommendations for future improvements. This research is qualitative in nature by analyzing several literature books as the main data source.

3. RESULTS AND DISCUSSION

The word taxonomy is taken from the Greek "tassein" which means to classify and "nomos" which means rule. Taxonomy can be interpreted as a hierarchical classification of something, or the principles underlying the classification. Where the higher taxonomy is more general and the lower taxonomy is more specific. All moving things, stationary objects, places and events, up to the ability to think can be classified according to several taxonomic schemes.

The concept of Bloom's Taxonomy was developed in 1956 by Benjamin S. Bloom, an educational psychologist and his friends. In 1956, the work "Taxonomy of Educational Objective Cognitive Domain" was published, and in 1964 the work "Taxonomy of Educational Objectives, Affective Domain" was published, and his work entitled "Handbook on Formative and Summative Evaluation of Student Learning" in 1971 and his other work "Developing Talent in Young People" (1985). (Mahmudi et al., 2022).

In general, Bloom's taxonomy is classified into three classifications, namely: (1) cognitive domain, namely the domain related to the goal of learning something and oriented towards thinking intelligence; (2) affective domain, namely the domain that discusses emotions, feelings, attitudes and value systems, and (3) psychomotor domain, namely the domain that is related to the use of skeletal muscles or is also usually

associated with motor skills. (Kartini et al., 2022). The cognitive domain sorts skills according to the expected goals. The thinking process describes the stages of thinking that students must master in order to be able to apply theory into action. This cognitive domain consists of six levels, namely: (1) knowledge, (2) comprehension (understanding or perception), (3) application (application), (4) analysis (decomposition or elaboration), (5) synthesis (integration), and (6) evaluation (assessment). (Magdalena et al., 2020).

The affective domain is the domain related to student attitudes. These attitudes include honesty, self-confidence, discipline, and so on which are related to attitude assessment. In this way, the affective domain is very important to carry out as an assessment activity in teaching and learning activities. (Saftari & Fajriah, 2019)

The final domain is the psychomotor domain. This domain is a domain that is related to skills in the functions of the nervous system and muscles. The psychomotor domain is the same as the affective domain, in which there are 5 aspects. These 5 aspects are imitation, manipulation, precision, articulation, and finally naturalization. (Ina Magdalena, Riana Okta Prabadan, 2021). Benjamin Bloom said, there are three sources of information that are taken into consideration in formulating educational goals, including:

First, the information available about the student. What is their current level of development? What are their needs? What are their interests? What this means is that in matters relating to educational goals, highlighting the importance of understanding information about students such as their level of development, needs and interests is the main consideration.

Second, an investigation of the conditions and problems of contemporary life that place demands on young people and adults and that provide opportunities for them. What activities is the individual expected to perform? What problems might they face? What opportunities might they have for service and self-actualization?

Third, another source of advice for educational goals comes from the nature of the subject matter and the consideration of subject matter specialists about the contribution their subject can make to an individual's education. What is the conception of the subject area? What types of learning can emerge from the study of the subject matter? What contribution can the subject make to other subjects?

Of the three statements put forward by Benjamin Bloom, in formulating educational goals, it is very important to consider various sources of information that can provide insight into students' needs and potential. (Education, 2024)

Re-learning Bloom's taxonomy is something that is very necessary, because studying Bloom's taxonomy is a provision or reference for evaluation tools for a teacher or prospective teacher. If the basics of evaluation tools are not studied then teachers will find it difficult to carry out assessments.

Bloom's taxonomy as a learning evaluation tool also needs to be considered. Not just casually made. But a good evaluation tool is an evaluation tool that can cover many things. This evaluation tool can be written, unwritten, and project. So any aspect of the assessment can be used.

This research is supported by the results of Fitriawan, et al.'s research entitled "The Relationship Between the Taxonomy of Educational Objectives and Evaluation of Learning Outcomes". States that all the domains contained in Bloom's taxonomy can help the journey of all learning activities so that all educational goals created from the start can be achieved. Likewise, this learning evaluation can help measure how capable students are of mastering all the material taught by the teacher. (Ina Magdalena, Riana Okta Prabody, 2021).

A.   *Cognitive, Affective and Psychomotor Domains as Objects for Evaluation of Learning Outcomes*

The term cognitive comes from the word cognition, meaning the action or process of getting/knowing something by reason or intuition. Thus, cognition is the acquisition of knowledge by someone. In subsequent developments, this term was absorbed into Indonesian to become cognition which is an area or domain of human psychology which includes every human behavior and mentality related to understanding, consideration, problem solving and intentionality. In other terms, the cognitive aspect is part of cognition which is a psychological discipline that specifically discusses psychological research and discussion, including the process of receiving, processing, storing and retrieving information from the human memory (mind) system. (Halimah & Adiyono, 2022) The cognitive domain is closely related to learning evaluation because it focuses on measuring students' intellectual abilities, from remembering to creating. Learning evaluation in this domain is designed to assess the extent to which students understand, apply, analyze, evaluate and create based on the knowledge learned.

The affective domain concerns attitudes and values. Some experts say that changes in a person's attitude can be predicted if a person has a high level of cognitive mastery. In general, assessing affective learning outcomes receives less attention from teachers. Teachers mostly assess the cognitive domain solely. The type of affective learning outcomes appears in students in various behaviors such as attention to lessons, discipline, motivation to learn, respect for teachers and classmates, study habits, and social relationships. (Siregar, 2017) Evaluation results in the affective domain help educators understand character development

and student attitudes, as well as designing learning that better supports the formation of good personalities and positive attitudes towards the learning environment.

Assessment of psychomotor learning outcomes in this research can be done using direct observation and assessment of student behavior in the teaching and learning process, and the tool used in measuring the psychomotor domain is observation. Observation is a data collection technique that has specific characteristics when compared to interview and questionnaire techniques. If interviews and questionnaires always communicate with people, then observation is not limited to people, but also to other natural objects. Data collection techniques using observation are used if the researcher is concerned with human behavior, work processes, natural phenomena, and if the number of respondents is not too large (Ummah, 2019). Evaluation results in the psychomotor domain provide an overview of the effectiveness of learning in developing students' technical skills and helping educators design better strategies to improve students' abilities in practical activities.

The cognitive, affective and psychomotor domains are interconnected in learning evaluation to achieve holistic learning goals, because each reflects important aspects of student development. The cognitive domain evaluation assesses students' understanding and thinking abilities, the affective domain evaluation measures internalized attitudes, interests and values, while the psychomotor domain evaluation tests applied practical skills. For example, in learning the art of music, the cognitive domain evaluation measures students' understanding of music theory, the affective domain evaluation assesses students' appreciation of the art of music through emotional involvement, and the psychomotor domain evaluation measures students' ability to play musical instruments with the correct technique. This combination of evaluation ensures that learning not only produces knowledge but also forms positive attitudes and capable skills.

4.   CONCLUSION

From the results of research in the field with friends: Dinda Aldini, Dinda Anggraini, Desi Lestari, Nursyifa Arida, Rana Sinta, Anisa Dwi Lestari, indah Sri Ratih, Akbar Al Fadillah, Farraz Aulia Ihsan, Egianisa Br Sitepu, Ananda Siddik, dan Fatiyyah Fitri.

The taxonomy of educational objectives is an important framework that classifies learning objectives into three main domains: cognitive, affective, and psychomotor. Each of these domains reflects a different aspect of the learning process, namely the development of students' thinking abilities, attitudes and practical skills. In relation to evaluating learning outcomes, this taxonomy provides guidance for educators to design evaluation instruments that are comprehensive and appropriate to learning objectives. Evaluation that covers these three domains not only helps measure overall learning success, but also ensures that the educational process produces intelligent, moral and skilled individuals. Thus, this taxonomy becomes the foundation for creating learning that is effective and relevant to the needs of modern society.

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