The Role of Bloom’s Taxonomy in Curriculum Approach

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Abstract

The background of this study was to examine how big the role of Bloom's taxonomy is in the curriculum approach as a work tool that functions to clarify learning objectives, to develop an education system in a more efficient direction. This research uses the Library Research method, this method was chosen because with the Library Research method researchers can clearly analyze various conceptual information as well as qualitative and quantitative data from previous research. The conclusion obtained is that with the progress of the times, education must also develop and one of the education systems used in learning is the curriculum. With an efficient curriculum and in accordance with the needs of students in his day, the curriculum can be said to have succeeded in achieving its goals. Bloom's Taxonomy is present as a framework to help and also as evaluation material to revise or update the existing curriculum.

Keyword : Bloom’s Taxonomy, Curriculum, Learning Objectives

BACKGROUND

School is a place where students hone their skills and intelligence. Also, a facility specifically built to conduct instruction is a school. Families are no longer able to fulfill all of their children’s requirements and goals in terms of science and technology due to the advancement of the times. The more advanced a society is, the more important the role of the school is in preparing the younger generation before entering the community development process (Subianto, 2013).

The choice of appropriate learning activities will offer efficient student learning experiences to realize full human development, it is necessary to state in an effort to realize educational teaching that every teacher decision and action in order teaching and learning activities will bring various impacts or effects to students. For example, if the teacher has the proper educational insight and is proficient in a variety of teaching and learning tactics, they will be able to develop and implement a variety of learning activities that are engaging and relevant for students. According to (Subianto, 2013), giving initiative and responsibility as early as possible to students in teaching and learning activities will cultivate habits and continuous independent learning abilities. Therefore, it is hoped that the role of the school can create a society that intelligent.

As a result, the role of the school is very crucial in educating students to become the younger generation who can develop in line with the times. However, without a foundation or set of rules, school learning cannot take place in a way that meets the needs and development of the students, which is why there is a curriculum. Moreover, curriculum is a tool for achievement of the learning process within education world (Fatmawati & Yuzrizal, 2020).

Curriculum is also a blueprint, plan, design or a guide for implementing educational and learning programs that are offered by educational institutions and contain a lesson plan that will be sent to lesson participants throughout the course of one educational level. The curriculum serves as standard or baseline for achieving educational objectives (Martin & Simanjorang, 2022).

Curriculum is like the brain of a lesson. If the curriculum is well structured and meets the needs of the students, the learning outcomes will be good too. For this reason, the structure of the curriculum has a big impact on the world of education. In addition, curriculum is a planning and setting regarding objectives, content, learning materials and methods used as a guide in teaching and learning process activities for achieve educational goals (Martin & Simanjorang, 2022).

In this day and age, the development and mindset of students must also be renewed. For this reason, the structure of the curriculum must be renewed as well. One of the criteria that can be used as a basis is Bloom’s Taxonomy. Bloom’s Taxonomy is a work set or also known as a hierarchical structure because it acts as a framework for determining the level of intelligence possessed by a person and this framework has also recently used as a reference in recent research in the field of mobile learning and student cognition (Crompton et al., 2019). In addition, Bloom’s Taxonomy was chosen as a framework for this study to determine the cognitive level of students during mobile learning activity.

Based on previous research conducted by (Setiawan & Arifianto, 2021), under the title “KONSTRUKSI KERANGKA KONSEPTUAL PERANAN ROH KUDUS DALAM PAK MENGUNAKAN TAKSONOMI BLOOM YANG DIPERBAHARUI”. As the result of this research that focuses to describe the ways in which Christian education produces
spirituality, spiritual behavior, and spiritual knowledge. The updated version of Bloom’s Taxonomy will be utilized to connect the non-cognitive and cognitive worlds. This research used qualitative method employed in conjunction with literature analysis, particularly from the most recent books and journals for data retrieval, and discover a reciprocal relationship between the already present variables. In addition, the biblical analysis of the Holy Spirit’s story in the Bible and the most revised version of Bloom’s Taxonomy are employed as the study’s main factors. Moreover, by mentioning the third crucial variable, namely metacognition, the conclusion between the two variables is achieved. The investigation that forms the theoretical foundation for the development of the conceptual framework yields mapping of variables between metacognition and pneumatology. Lastly, based on the findings, the offered conceptual framework shows that the Holy Spirit is the main element that influences not only the teachers and students, but also stakeholders and shareholders of the PAK. Learning process, scope (church, school, family), infrastructure (learning facilities), technology that is ready for 21st century learning, curriculum, and management are the components who can support, but not the most.

An another research from (Crompton et al., 2019), under the title “Mobile Learning and Student Cognition: A Systematic Review of PK-12 Research Using Bloom’s Taxonomy”. As the result of this study that focuses on examining patterns to ascertain the level of cognition students were engaging in during mobile learning activities. This systematic review employed Bloom’s Taxonomy as a theoretical framework for classifying the cognition level of the student activities and involved an aggregated and configurative synthesis of PK-12 mobile learning studies from 2010 to 2016. Additionally, significant new result including the fact that children participate in activities at each of Bloom’s Taxonomy six levels. This research used systematic review to achieve an objective synthesis and present the result in an objective manner. Lastly, based on the findings, show the affordances offered by mobile device enable students to think more critically. The results also demonstrate that despite the potential of these technologies, students are nevertheless frequently expected to work at lower levels while using mobile devices.

On the basis of the explanation provided above, it can be said that the role of Bloom’s Taxonomy has a very important role and helps in realizing a better learning. Additionally, with this framework it can improve and measure the level of student cognition appropriately according to the needs of these students. Even though the curriculum is not the main factor in the success of learning, the curriculum is still a framework that is very crucial for the development of students, especially in the field of cognition.

This research is important to do because only a few studies have recently been conducted to see how large the role of Bloom’s Taxonomy is in the curriculum approach and this research also used revised framework from the previous version because it keeps up with the times and also the needs of students in this modern era.

METHODE

This study used library research as method. Library research is the result of analyzing various conceptual information as well as qualitative and quantitative data from various scientific articles that previously published (Nashi & Hapsari, 2022).

Additionally, without library research we cannot comprehend the hottest issues or how a theory is investigated, thus this kind of approach is crucial to employ (Supriani et al., 2022). According to (Chris Hart, 2018) said that “using libraries to conduct research is a component of academic growth, the direction of this study’s execution is (1) to locate and understand the phenomenon or issue (2) to develop concepts (3) and to draw a conclusion (4)”. The data collection technique of this study was taken from several references, including articles, journals, and document about Bloom’s Taxonomy and related to Curriculum Approach.

Moreover, the method used in this study literature that serves as a guide in studying a research problem (Mulyadi, 2013).

RESULT AND DISCUSSION

Taxonomy is derived from two Greek words. Tassein and nomos, tassein which detones classification and nomos which detones an event (Retno Utari, 1942). Taxonomy refers to hierarchical classification based on fundamental principles or natural laws.

At the first, the framework of Bloom’s Taxonomy was designed as a way to make it easier for professors at multiple colleges to interchange test items and build banks of things that all measure the same educational objective. This plan was started by Benjamin S. Bloom, who was then the Associate Director of the University of Chicago Board of tests, in the hopes that it would lessen the workload associated with creating yearly comprehensive tests.

He gathered a team of measuring experts from all around the country to help, many of whom had encountered the same issue before. Beginning in 1949, this committee met twice a year to discuss the progress, make changes and determine the next steps. “Taxonomy of Educational Objectives: The Classification of Educational Goals Handbook 1: Cognitive Domain” was the title of the 1956 publication that contained it is final draft (Bloom et al., 1956). This is referred regarded as the original Taxonomy moving forward. 45 years later, the modification of this framework, which is the focus
of the issue of Theory Into Practice, was created in a very similar way. This is referred to as the updated Taxonomy from now on (Practice & Bloom, 2008).

When organizing goals for learning, learning and other various learning activities, Bloom’s Taxonomy is frequently used. In the early stage of developing his taxonomy, Bloom identified two learning domains, which is cognitive and affective. Cognitive domain, which includes mental abilities (knowledge) and the affective domain includes the development of feelings or the emotional fields (attitude). In 1966, Simpson created the psychomotor domain, which includes manual skills or physicality (skills), to complete Bloom’s Taxonomy. Simpson and Dave each introduced “Psychomotor Domains” and “The Classification of Educational Objectives in the Psychomotor Domain” in 1967 (Nafiati, 2021).

According to (Nafiati, 2021), Bloom discussed cognitive taxonomy with students in the context of compilation questions and exams that were designed to measure student mastery of the predetermined learning objectives. Krathwohl, a close friend of Benjamin Bloom, is putting a lot of effort into updating the taxonomy and publishing it.

There are adjustments principles of the revised Bloom’s taxonomy. Firstly, the revision of Bloom’s taxonomy focuses on adjustments to the applications. It consists of three domains: applications in the fields of curriculum design, teaching instructions, and assessment/assessment. According to the outdated Bloom’s taxonomy, creating the taxonomy is meant to make it easier to create examinations for the national tertiary level. Secondly, Bloom’s taxonomy revision emphasizes terminology changes, where revision in Bloom’s taxonomy, the resulting subcategories are highlighted. The assessment becomes more precise, making an evaluation of the curriculum is simpler, and creating lesson plans is also simpler. In addition to Bloom’s taxonomy being updated, there has been a change in knowledge.

Demands led to the change of Bloom’s taxonomy. In order to produce quality human resources and revise the taxonomy, the education industry is growing quickly. Bloom’s aim to support this industry. Today's advancements in science and technology require that students not only reach the evaluation stage but also be motivated to reach the level of creation in the cognitive domain, capable of maintaining a positive attitude and behavior while learning both inside and outside of the classroom honestly (affection domain), and strong and physically capable (psychomotoric domain) so that learning objectives are met.

One of the frameworks that can be used for reference in learning planning is Bloom’s Taxonomy. According to (Wilson, 2016) in the revised of Bloom’s Taxonomy the dimensions of knowledge divided into 4 types: Firstly, actual knowledge is understanding that is fundamental to a certain discipline. This dimension refers to crucial information that students must be aware of in order to comprehend a subject or work through an issue in it. Secondly, knowledge of classifications, principles, generalizations, theories, models, or structures relevant to a specific discipline field is referred to as conceptual knowledge. Thirdly, information or knowledge pertaining to a field, subject, or area of study is referred to as procedural knowledge. It also includes investigative tactics, extremely specialized or limited talents, algorithms, strategies, and unique processes. Lastly, the awareness of one's own mind and certain cognitive processes is known as metacognitive knowledge. It is strategic or reflective knowledge about how to approach problem-solving, cognitive activities, as well as knowledge of self and knowledge of contextual and conditional information.

To ensure that the implementation of learning proceeds smoothly and successfully, there is a method, scientific discipline, reality, system, and learning technology called learning planning (Ananda, 2019). This demonstrates how lesson planning is a logical implementation of a methodical examination of the process of educational development with the purpose of improving the effectiveness and efficiency of education in accordance with the needs and goals of students.In addition, planning a lesson involves making logical decisions regarding specific learning goals and objectives, such as behavior changes, and a set of actions that must be taken in an effort to accomplish these goals by leveraging all available potential and learning resources.

For these reason that the curriculum exists as one of the outcomes of lesson planning. Additionally, curriculum functions as guidelines for implementing activities education in schools for the parties involved, either directly or indirectly, such as the teacher's side, the head school, supervisor, parents, community and the students themselves (Kurniawan & Noviana, 2017).

Education has changed significantly as a result of the rapidly changing world, shifting from a traditional and rigid perspective to one that is more contemporary. In order for students to reach their full potential and possess the religious spiritual strength, self-control, personality, intelligence, noble character, and skill needed by himself, society, nation, and country, education is an intentional and planned endeavor to establish a learning environment and process learning.

The Indonesian curriculum has undergone numerous revisions and refinements since 1945. This improvement was made based on current trends in student development, technological advancement, and the need to meet certain standards. The curriculum is changing for the better, which benefits everyone's development (Kurniawan & Noviana, 2017).

Meanwhile, according to (Ananda, 2019) the benefits of lesson planning, especially in the teaching and learning process, are as follows:

a) To steer actions in the direction of achieving goals,
b) As a model for organizing the responsibilities and powers of each component of the activity,
c) As a rule of thumb for each element's student and teacher work,
d) As a tool to assess a job's effectiveness, so that the speed and correctness of work may always be known,
e) For supplies for data compilation, to ensure a balance of effort,

f) To save money, resources, time, and labor.

The curriculum is a tool for achieving dynamic educational goals. As a result, the curriculum must always be improved to match the rate at which science, technology, and growing civilizations are developing. It is meant to ensure that curriculum development outcomes reflect students' interests, abilities, needs, environmental concerns, and regional demands in order to facilitate educational programs within the context of realizing and achieving national education goals (Huda, 2019).

Additionally, the curriculum needs to be improved further while external educational institutions' dynamics are adjusted. The curriculum aims to socially reconstitute society such that community needs and classroom learning may coexist. In order to equip students to fulfill market demands, the curriculum must be adjusted to the nature of education. The construction of curriculum is important to verify that educational objectives have been met.

In Indonesia, the curriculum set from basic education to advanced education is curriculum Merdeka Belajar Kampus Merdeka or abbreviated as MBKM. Based on exposure from (Baharuddin, 2021), the Merdeka Belajar Kampus Merdeka curriculum encourages students to become experts in a variety of subject areas so they are prepared to compete in a global marketplace.

In addition, this policy gives students the freedom to select the courses they will enroll in depending on their personal preferences. Implementation of the Merdeka Belajar Kampus Merdeka curriculum promotes an increasingly independent and adaptable learning environment in higher education. Education constantly aims to create learners who constantly update. Not only intelligent, but also able to affect change on a little or large scale. Change and the innovations that arise from it can contribute most significantly to the advancement of a country with good human resources (Arifin & Rizaldi, 2023).

The 2013 curriculum was replaced by the MBKM (Merdeka Belajar Kampus Merdeka) curriculum in 2019, according to Minister of Education and Culture Nadiem Makarim (Vhalery et al., 2022). The “Merdeka Belajar” and “Kampus Merdeka” principles make up the MBKM concept. Freedom of ideas and invention both include freedom to study. Meanwhile, the Merdeka Belajar program for higher education is carried on by Kampus Merdeka. One step toward attaining superior human resources for Indonesia through transformational education is the independent learning policy, which has a Pancasila Student Profile.

Besides, students must be ready to follow this transformation in order to deal with sociocultural changes, the workplace, the business sector, and quick technology advancements. As a result, new literacy and directed orientation in the sphere of education must be prepared by every educational institution (Doringin et al., 2020). For students to accomplish learning outcomes including cognitive, emotional, and psychomotor ideally and always relevant through the MBKM curriculum, new learning procedures must be designed and put into practice.

It cannot be denied that the role of Bloom's Taxonomy is very large in laying down the principles learning (Meidasari et al., 2014). Among them Bloom's Taxonomy helps students gain perspective on the emphasis on certain behaviors through a set of educational plans. For example, the teacher can explain the components of a unit teaching into taxonomic categories at the level of remembering or knowledge (Waterman et al., 2015). In addition, Bloom's taxonomy also helps curriculum design determine objectives so that they are more comprehensive easy to design learning and assessment. In fact, most of the taxonomic categories are useful as a framework for examining educational processes and analyzing the role of that education (Wahidah Masrom et al., 2018).

In this study will focus on the cognitive domain in the Bloom’s Taxonomy, the cognitive domain is divided into 6 according to the explanation from (Darmawan & Sujoko, 2013). The six classifications included in the cognitive domain are a) Knowledge, which emphasizes remembering, whether by expressing or re-acquainting something that has been learned and stored in memory. This section contains the ability to recognize and remember terms, definitions, facts, ideas, patterns, sequences, methodologies, basic principles, and so on; b) Understanding (comprehension), that emphasizes converting information into a form that is easier to understand. An example for this classification is that students are required to be able to understand what described in the population pyramid figure, tables or diagrams of population growth, and so on; c) Application, that results learn to use abstractions in situations specific and concrete. The pressure is to solve a problem. At this level, a person (student) has the ability to apply ideas, procedures, methods, formulas, theories, and so on in conditions learning; d) Analysis, where the results learning obtained in this classification is to sort information into more detailed units so that their functions can be recognized, relation to the larger part, as well overall organization. Students are expected to be able to analyze information received and shared information into smaller pieces to identify patterns of information or their correlations. An example for this level is that students are directed to be able to sort out the causes of the population explosion in several regions in Indonesia, compare the factors that cause the population explosion in several regions in Indonesia, and classify each cause based on its characteristics, or classify the factors that stand out. in a population explosion the; e) Synthesis, learning outcomes of synthetic classification is the putting together of the parts to form a whole new and unique. Learners at level synthesis will be able to explain the structure or pattern from a previous scenario invisible, and able to recognize data or the information that must be obtained to produce the required solution; f) Evaluation, the results obtained are judgments about the value of something for a specific purpose.

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The verb component of knowledge turned into a category remembering, that is replaces the original knowledge classification in six principal categories, which are present use verbs. This form of the verb describes the actions implied in the categories of the original knowledge; the first action taken by students in learning knowledge is remembering it.

The revised taxonomy makes changes within the cognitive process sub-category the noun form is changed or replaced by using verbs. The reason for using the verb is because if the sub-category using verbs will certainly be more useful for the teacher to formulate goals and, in the learning process, to structure and categorize goals, learning activities, and assessment tasks.

In the revised taxonomy, results any learning will be represented in two dimensions which immediately presents the possibility of constructing a two-dimensional table, called taxonomy table. Knowledge dimension on vertical axis of the table, while the process cognition on the horizontal axis.

Taxonomy table useful for helping people teachers and other educators with at least three methods (Darmawan & Sujoko, 2013). Firstly, the Taxonomy Table can help teachers better understand their learning goals (goals they set themselves with purposes that have been provided by other parties); that is, the Taxonomy Table helps educators answer what are known as "questions about learning”. Secondly, with a more complete understanding of their learning objectives, teachers can use the Taxonomy Table to make better informed decisions. about how to teach and assess students with the framework of the learning objectives; that is, the Taxonomy Table helps para educators answer “questions about learning” and “questions about assessment”. Thirdly, the Taxonomy Table can help them determine how well the goals match, assessment, and learning in the right way; that is, the Taxonomy Table helps para educators answer “questions about the suitability of all components”.

CONCLUSION

With the progress of the times, education must also develop and one of the educational systems used in learning is the curriculum. With an efficient curriculum and in accordance with the needs of students in their era, the curriculum can be said to be successful in achieving its goals. Bloom’s Taxonomy is present as a framework to help and also as evaluation material to revise or update the existing curriculum and also this framework is tasked with clarifying learning objectives from the most basic level to the top level.

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