



# Learning Tools Based on Outcome Based Learning in Science Courses of Postgraduate Primary School Teacher Education Programs

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## Abstrak

Pengembangan kurikulum pada perguruan tinggi saat ini mewajibkan untuk mengimplementasikan program kampus merdeka. Program kampus merdeka menuntut perguruan tinggi untuk dapat menerapkan kurikulum berbasis luaran atau outcome-based education. Penelitian ini bertujuan untuk menganalisis kebutuhan pengembangan perangkat pembelajaran berbasis outcome based learning khususnya pada mata kuliah inti keilmuan program pascasarjana pendidikan guru sekolah dasar. Penelitian ini menggunakan pendekatan deskriptif kualitatif. Pengumpulan data menggunakan teknik kuesioner, observasi, dan wawancara dengan melibatkan 14 Dosen sebagai responden. Penelitian ini menghasilkan tiga temuan penting. Pertama, seluruh Dosen menyusun perangkat pembelajaran sebelum melaksanakan perkuliahan. Kedua, 57,1% Dosen menyusun perangkat pembelajaran tidak berbasis OBE. Ketiga, 71,4% Dosen tidak mengetahui perangkat pembelajaran berbasis OBE. Paradigma dunia pendidikan yang mengalami perubahan, berawal dari Input-Based Education menjadi Outcome-Based Education (OBE). Pendidikan ditinjau dan diganti dengan sesuatu yang lebih dan relevan, yang semula 'apa yang penting menurut dosen untuk diajarkan' kini berubah menjadi 'apa yang penting bagi mahasiswa untuk dipelajari dan dikuasai.' Untuk itu perlu dikembangkannya perangkat pembelajaran berbasis OBE pada mata kuliah inti keilmuan Program Pascasarjana Pendidikan Guru Sekolah Dasar.

**Kata Kunci:** Analisis, Perangkat Pembelajaran, OBE.

## Abstract

Curriculum development in higher education currently requires implementing the independent campus program. The independent campus program requires universities to be able to implement an output-based curriculum or outcome-based education. This research aims to analyze the need to develop learning tools based on outcome-based learning, especially in the core scientific subjects of primary school teacher education postgraduate programs. This research uses a descriptive qualitative approach. Data collection used questionnaire techniques, observation, and interviews with 14 lecturers as respondents. This research produced three important findings. First, all lecturers prepare learning tools before carrying out lectures. Second, 57.1% of lecturers prepared non-OBE-based learning tools. Third, 71.4% of lecturers need to learn about OBE-based learning tools. The education paradigm is changing from Input-Based to Outcome-Based Education (OBE). Education is reviewed and replaced with something more relevant, originally 'what is important for lecturers to teach' and has now changed to 'what is important for students to learn and master.' For this reason, it is necessary to develop OBE-based learning tools in core scientific subjects in Primary School Teacher Education Postgraduate Programs.

**Keywords:** Analysis, Learning Tools, OBE.

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## 1. INTRODUCTION

According to Law Number 12 of 2012 Article 58, Higher Education Institutions carry out functions and roles as: a. Student and Community learning forum; b. educational forum for future national leaders; c. Center for Science and Technology Development; d. center for the study of virtue and moral strength to seek and find truth; and e. center for the development of national civilization (Arifin, S., & Muslim, 2020; Kusdiby, 2021). A good lecture is a lecture that can achieve learning objectives optimally. Rapid changes in the world of work as a result of globalization and revolutions in the fields of information technology and science have required anticipation and evaluation of the competencies needed by the

world of work (Husain & Kaharu, 2020; Sormin et al., 2017). Evaluation is also important so that the world of higher education is not separated and distant from the real world of work in society. There is a dynamic relationship between universities, especially related to the gap between higher education outcomes and competency demands in the world of work (Christianingsih, 2011; Putera & Shofiah, 2021). Some of the important shifts that have occurred include an increase in educated unemployment, both open and hidden, as a result of higher education, changes in global socio-economic and political structures that affect the world job market and the rapid development of science and technology, causing various fundamental changes to occur in terms of qualifications, competencies and requirements for entering the world of work (Mitra & Purnawarman, 2019; Sormin et al., 2017).

Whether the results achieved by students are good or not depends on the teaching and learning process carried out. One of the weaknesses of this method is that the learning outcomes that have been determined in the course cannot be fully achieved (Martin & Grudziecki, 2006; Masmuzidin et al., 2022). The traditional way of designing modules and programs is to start from the course content. Teachers decide the content they want to teach, plan how to teach this content and then assess the content. This type of approach focuses on teacher input and assessment in terms of how well students absorb the material being taught. Course description refers primarily to the course content that will be covered in the lecture. This teaching approach is called a teacher-centered approach. Among the criticisms of this type of approach in the literature (Kaasinen, 2019; Saeed et al., 2015).

Learning tools play a very important role in lecture activities. In the lecture process that has been going on so far, PGSD students of the STAHN Mpu Kuturan Singaraja Postgraduate Program do not yet have the same learning tools to use as a guide in the learning process. Students use the internet and books in the library as learning resources. Apart from that, student dependence on lecturers is still very high, especially in relation to learning material (Istiqlal, 2018; Prihati et al., 2019). Lecturers still play a role as the main learning source, so there is a need to adapt learning tools designed and developed by lecturers to make it easier for students to understand lecture material in core scientific subjects (Afandi, 2022; Warif, 2019). The learning tools that will be developed can be used as a guide in the learning process both by lecturers and as sources studied by students (Pangalila, 2017; Sudarman et al., 2020; Tang & Chaw, 2016). The aim of this research is to analyze the learning tools that need to be developed in lectures on core scientific subjects in the Primary School Teacher Education Study Program, Postgraduate Program, Mpu Kuturan Singaraja State Hindu College. It is hoped that the results of this research will provide initial information regarding the learning tools that need to be developed and what the essence of this development is.

## **2. METHODS**

This research is a qualitative descriptive research. Qualitative descriptive research is a type of research that aims to describe or explain certain phenomena or situations in detail, in depth and comprehensively (Yuliani, 2018). This method is often used when researchers want to understand more deeply about a problem or topic, reveal individual perceptions, views or experiences, or explain the characteristics of a group or environment using qualitative data. This research uses a survey method. The survey method in this research is used to collect qualitative data that can help describe or explain the phenomenon under study (Morissan, 2016). The research was carried out in December 2022 - January 2023 at the Mpu Kuturan Primary School Teacher Education Study Program (PGSD) Postgraduate Program at the State Hindu Religious College (STAHN). The research population was lecturers from the PGSD study program STAHN Mpu Kuturan Postgraduate Program who taught core

elementary science courses with a total of 14 people. The sample used was the entire population, namely 14 lecturers from the PGSD study program, STAHN Mpu Kuturan Postgraduate Program. Data collection techniques are using interviews, observation and questionnaires. Data collection instruments used observation sheets and questionnaires. Observation sheets and questionnaires were used to obtain data about learning tools in core scientific subjects that had been prepared by the entire sample. The research data were analyzed descriptive qualitatively.

### 3. RESULTS AND DISCUSSION

#### Result

Based on the results of interviews with learning tools in core scientific subjects by researchers, data were obtained as listed in [Table 1](#).

**Table 1. Results of Interviews with Learning Tools in Core Scientific Subjects**

Lecture	Interview Result
1	More importantly 'what is important for students to learn and master'
2	More importantly 'what the lecturer thinks is important to teach'
3	More importantly 'what is important for students to learn and master'
4	More importantly 'what is important for students to learn and master'
5	More importantly 'what the lecturer thinks is important to teach'
6	More importantly 'what the lecturer thinks is important to teach'
7	More importantly 'what is important for students to learn and master'
8	More importantly 'what the lecturer thinks is important to teach'
9	More importantly 'what the lecturer thinks is important to teach'
10	More importantly 'what is important for students to learn and master'
11	More importantly 'what is important for students to learn and master'
12	More importantly 'what is important for students to learn and master'
13	More importantly 'what is important for students to learn and master'
14	More importantly 'what is important for students to learn and master'

Based on the results of observations of learning tools in core scientific subjects by researchers, data were obtained as listed in [Table 2](#).

**Table 2. Observation Results of Learning Tools in Core Scientific Courses**

No	Observation Result
1	Lecturers who teach elementary mathematics learning courses prepare RPS and Syllabus according to the KKNI-based curriculum
2	Lecturers in charge of elementary science learning courses prepare RPS and syllabus according to the KKNI-based curriculum
3	Lecturers who teach elementary civics learning courses prepare RPS and syllabus according to the KKNI-based curriculum
4	Lecturers in charge of elementary social studies learning courses prepare RPS and syllabus according to the KKNI-based curriculum
5	Lecturers who teach elementary Indonesian language learning courses prepare RPS and syllabus according to the KKNI-based curriculum
6	Most of the learning tools prepared are not OBE-based

Data from the results of the questionnaire distributed to lecturers who teach core scientific courses related to the learning tools that are prepared are shown in [Figure 1](#). Data

from the results of the questionnaire distributed to lecturers regarding learning tools that are prepared based on OBE are shown in Figure 2. Data from the questionnaire related to the lecturers' knowledge about learning tools OBE-based is presented in Figure 3.

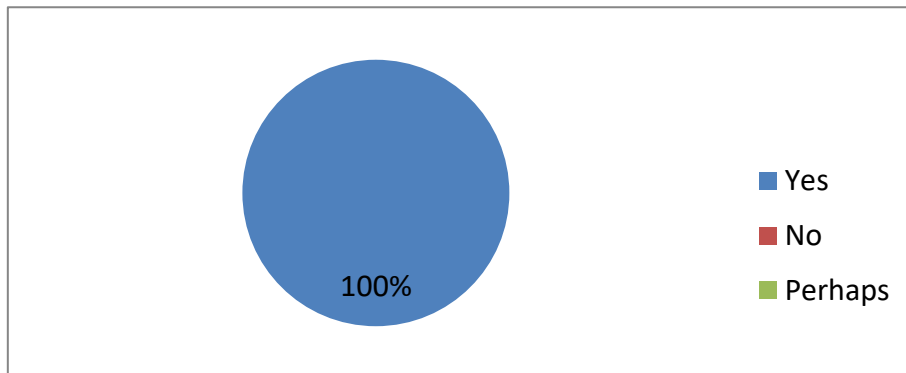


Figure 1. Developing Learning Tools

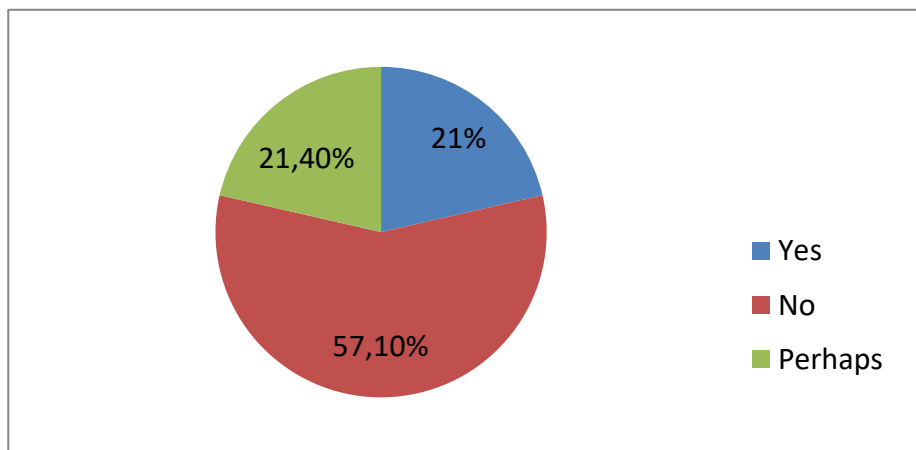


Figure 2. Preparation of OBE-Based Learning Tools

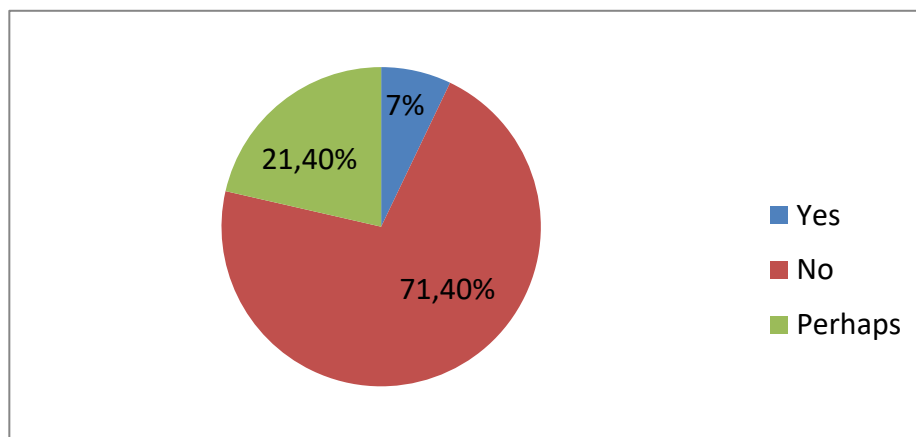


Figure 3. Knowledge about OBE

### Discussions

The research was conducted by interviewing, observing and distributing questionnaires to lecturers teaching core scientific subjects at the Primary School Teacher Education Study Program, Postgraduate Program, Mpu Kuturan State Hindu College. Based on the results of interviews conducted by researchers, the researcher gave options 1) 'what is

important for lecturers to teach' with option 2) 'what is important for students to learn and master' to lecturers who teach core scientific subjects. A total of 64.29% of lecturers stated that 'what is important for students to learn and master' is more important than 'what the lecturer thinks is important to teach'. This is very in accordance with the OBE (Outcome-Based Education) concept. Based on observations made, most learning tools are not in accordance with the OBE (Outcome-Based Education) concept. This is contradictory to the results of interviews conducted by researchers. Based on a questionnaire distributed to lecturers teaching core scientific subjects, data was obtained that: first, all lecturers prepared learning tools. Second, as many as 57.1% of lecturers stated that they had not prepared OBE-based learning tools. Third as many as 71.4% stated that they did not know about OBE-based learning tools. In the data from the second and third statement questionnaires, there are differences where it can be seen that there are not as many lecturers who stated that they had not prepared OBE-based learning tools as there were lecturers who stated that they did not know about OBE-based learning tools. Thus, there are lecturers who develop learning tools that resemble the OBE concept even though they do not know what is meant by OBE.

Learning tools are an important component for the continuity of lectures. According to previous research, all types of materials, both printed and non-printed, that are used to carry out learning are called teaching materials (Istiqlal, 2018; Prihati et al., 2019). The same thing is said by other research that teaching materials are all forms of materials, tools or materials that teachers use in carrying out learning so that they can facilitate the ongoing learning process (Hart et al., 2022; Morrar et al., 2017). With teaching materials, educators can manage classes efficiently and effectively according to students' needs. Through appropriate teaching materials, it is hoped that students can participate in learning well and find the meaning of their learning. The functions of teaching materials include (1) helping students learn according to their abilities; (2) helping students interact in groups and individually; (3) expand students' understanding and knowledge; (4) as instructions that are prepared systematically for the purposes of the learning process; and (5) make it easier for teachers to transfer material to students (Hidayah et al., 2017; Supriyono, 2018). Expanding students' knowledge and understanding, every teacher's learning activity requires teaching materials that are appropriate to the curriculum and students' character so that these teaching materials can support learning optimally.

Students will also be comfortable, active and organized in learning if educators use appropriate teaching materials. Because in essence, learning in the classroom can be successful and achieve the expected learning objectives, if educators are able to manage the teaching materials used (Al Mamun et al., 2022; Fatimah & Santiana, 2017). However, in reality the preparation of teaching materials by educators has not been implemented optimally. Even though it exists, the preparation of teaching materials is still limited to combining or compiling several materials into printed teaching materials in the form of material summaries, handouts, and usually presented in power point form (Yusup et al., 2016). When compiling teaching materials, educators still use the method of combining material directly from other book reading sources without going through a systematic process such as analyzing student needs and characteristics. The process of developing teaching materials like this cannot cover the real needs of students so that the material taught by teachers tends not to attract students' interest in learning (Laila Puspita, 2019; Setyaningrum & Waryanto, 2017).

Therefore, needs analysis is a crucial step in developing teaching materials. Analysis is carried out so that the teaching materials developed are in accordance with the learning objectives that must be achieved and also in accordance with the characteristics of the students. Analysis is carried out by identifying real conditions, namely in class during lectures. Through needs analysis, educators can find out the conditions and characteristics of

students in a systematic way, so that the results obtained will be accurate and in accordance with the actual situation (Putri & Rukun, 2019; Yamin & Karmila, 2020). When educators prepare teaching materials by conducting a needs analysis first, they will create teaching materials that suit the characteristics of students so that these teaching materials will have an optimal and significant effect on students' learning development. With appropriate teaching materials, students can learn independently with their own learning abilities without any limitations of time, teacher and place while still giving responsibility for learning to each student (Ningtyas et al., 2014; Utami et al., 2020).

Through analysis, it is known that students of the PGSD STAHN Mpu Kuturan study program need teaching materials that can be used to support lectures on basic concepts in elementary school mathematics, as a tool for independent learning, and to increase students' understanding of the material being taught. The results of this research can be used as a basis for developing teaching materials for basic concepts in elementary school mathematics. Teaching materials that lecturers can use to support lectures can be in the form of textbooks. The world of education paradigm has changed, starting from Input-Based Education to Outcome-Based Education (OBE). Education is reviewed and replaced with something more and relevant for students, especially students. Therefore, it is hoped that when students graduate they will be able to survive and develop into productive citizens who develop their knowledge and can work as children of the nation. On the other hand, OBE aligns various elements to facilitate learning achievement by learners. The elements mentioned include learning outcomes themselves, curriculum, learning methods, learning assessment, continuous quality improvement, and all resources such as lecturers, physical facilities, information systems and governance, as well as management institutions.

#### **4. CONCLUSION**

Based on the research data and discussions that have been carried out, it can be concluded that the obstacle faced in preparing OBE-based learning tools is that the paradigm of the world of education is changing, starting from Input-Based Education to Outcome-Based Education (OBE). Education is reviewed and replaced with something more and relevant, which was originally 'what is important for lecturers to teach' has now changed to 'what is important for students to learn and master.

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