Implementation Outcome-Based Education in Innovation Subjects on Primary Social Science Learning in Elementary School Teacher Education

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Abstract. Outcome-based education (OBE) centers on designing instruction around the outputs and results that students produce during their education. Implementing OBE serves as a benchmark to enhance the standards of the Indonesian National Qualifications (KKNI) Universitas Negeri Medan, thereby improving lecture quality. OBE is a program that prioritizes academic success by focusing not only on the material to be covered but also on the outcomes achieved. Essentially, this approach promotes continuous learning that is innovative, effective, and interactive. This research aims to evaluate the effectiveness of OBE in the elementary school in social science learning innovation courses within the primary school teacher education program at Medan State University. It aspires to equip lecturers at the university with the capability to implement OBE in their teaching. The study integrates Research and Development (R&D) method to examine the application of OBE in these courses. The findings reveal that OBE has been successfully integrated into the elementary school teacher education study program, particularly in the social science learning innovation courses. The outcomes demonstrate that the achievement products are feasible, practical, and effective for use in these courses.

Keywords: Outcome Based Education, Elementary Social Sciences Learning Innovation Course

1 Introduction

There are rapid changes in the world of work, this is due to globalization and the revolution in informatics and science requiring forethought and foresight in assessing the skills needed for working life. There is a dynamic relationship between higher education institutions, especially related to the gap between university education outcomes and outcome requirements in the world of work. Some of the important changes that occur are the increase in unemployed people who have both open education and underemployment as a result of tertiary education which changes the global socio-economic and political structure which can influence the world labor market and the swift advancement of science and technology which causes various changes. fundamental in qualifications, outcomes and requirements for entering the world of work.

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There is competition for human resources to get decent work, therefore, qualified and competent human resources are needed according to their field. To achieve this, these activities must be achieved as early as possible so that they can be started with Outcome Based Learning (OBE) methods. An Outcome-Based Education (OBE) approach focuses on the specific achievements expected of students. In an Outcome-Based Education (OBE) system, the desired learning outcomes are determined at the outset. Instruction and assessment methods are then tailored to meet these outcomes. This approach contrasts with traditional education methods, where instructors initially decide on the content to be taught and subsequently define the outcomes based on the selected content.

The age of the Fourth Industrial Revolution represents a period marked by the integration of automation and data exchange in manufacturing technologies. It has developed rapidly and has become a challenge for humans in global competition. The phenomenon that occurs in learning today is collaboration between cyber technology and automation technology [4]. Education in the era of industrial revolution 4.0 is a difficult and novel challenge for teaching staff especially in Indonesia. The obstacles that educators must face in the age of the fourth industrial revolution are The changes in learning methods, thinking patterns, and student behavior play a significant role in fostering innovation and creativity across various fields. These shifts lead to a more dynamic and adaptable educational environment, where students are encouraged to think critically, explore new ideas, and apply their knowledge in innovative ways. This transformation not only enhances their ability to solve complex problems but also prepares them to contribute effectively to diverse industries and sectors. Students must possess and develop advanced thinking abilities in the age of the fourth industrial revolution, including information and technology literacy, creativity, and invention, as well as critical thinking and problem solving. High-level thinking abilities are abilities that students must have and develop in this era [18].

One university that uses cyberlearning techniques is Medan State University, which modifies instruction to emphasize problem-solving and critical thinking. As a result, the government developed a brand-new approach to education development called the case solution technique [5]. The National Qualifications Framework, which is part of the KKNI curriculum, suggests using this approach. KKNI curriculum is designed to develop individuals who meet learning goals and are prepared to enter the workforce [19].

The adoption of Outcome-Based Education (OBE) comprises three distinct phases: (1) Outcome-Based Curriculum (OBC), (2) Outcome-Based Learning and Teaching (OBLT), and (3) Outcome-Based Assessment and Evaluation (OBAE). These phases are interconnected and utilize an assessment and evaluation strategy centered on the achievement of Course Learning Outcomes (CLO) to enhance and maintain the quality of education. This systematic approach ensures that all components work synergistically to achieve the desired educational outcomes. At Medan State University's Faculty of Education (FIP), implementing of OBE is compulsory across all courses. The aim is to gain graduates who have creativity, innovation, and capacity of high-level problem-solving [7]. However, the OBE concept, particularly in social science learning innovation courses, has not achieved full feasibility. Quality assurance assessments indicate that the implementation in teaching materials, RPS (syllabi), and lecture processes, grounded in case methods and team-based projects, has not completely achieved the OBE concept. [8].

In order to develop social studies learning dimensions, such as knowledge, skills, attitudes, and social actions based on development, as well as the ability to think critically and produce

products or works, as well as paying attention to local and global issues and the novelty of social studies learning in elementary schools, This course provides comprehensive theoretical and practical expertise in creating and implementing social studies of learning scenarios especially in elementary school [9]. Nine course learning outcomes (CPMK) serve as the foundation for how lecture content is applied. These include: (1) recapitulating the viewpoint and direction of the evolution of primary school social studies instruction, (2) using material analysis methods to guide the creation of learning materials for primary social studies, (3) use a variety of sources to apply information literacy skills in IPS (online and offline), (4) use map and globe knowledge when studying social subjects in elementary school, (5) use chronology and temporal concepts when studying social subjects in elementary school, (6) using social skills learned in elementary school social studies classes by cultivating a compassionate outlook and participating logically in solving environmental issues, (7) using critical, problem-solving, and decision-making thinking abilities in primary school social studies instruction. utilizing value instillation, value analysis, value clarification, and cognitive moral education as part of a values-based social studies curriculum in primary schools, (8) create and bundle learning materials based on multimedia that are based on social events, symptoms, or occurrences, (9) create and construct evaluation instruments based on HOTS (High Order Thinking Skills) [10]. In elementary school social science education innovation courses, there is integration between Outcome Based Education, which stresses well-articulated ideas about what students should know and be able to do, and students' ability to develop their creativity and knowledge [11].

Applying OBE in the innovation of social science learning course at the Faculty of Science Education, Unimed, involves utilizing participatory learning methods and collaborative discussions. These approaches aim to teach students to innovate in both their learning and life [15]. The OBE concept guides students through collaborative projects that combine various curriculum subjects, enabling students to investigate topics in meaningful and interconnected ways and conduct experiments with their peers [12]. This method helps students familiarize themselves with problem-solving in real-life situations.

The concept of implementing Outcome-Based Education (OBE) revolves around structuring educational practices to focus on achieving specific learning outcomes which is the the implementation of independent learning and independent campus initiatives based on Key Performance Indicator (IKU) 7, which focuses on collaborative and participatory classes. implementation of OBE in the innovation of social science learning course will be a barometer for strengthening independent learning independent campusin the faculty of Science Education environment at Medan State University in improving the quality of lectures [13]. This Outcome Based Education concept will develop students' intellectual abilities and prepare them to become prospective elementary school teachers who are insightful and innovative. The courses offered in this research are social science learning innovation courses which will be actualized in Outcome Based Education Concepts. The actualization carried out in the social science learning innovation courses is by looking at the achievements of learning devices, teaching materials and the lecture process by prioritizing the output of Lecture Results [14].

2 Research Method

This research centers on analytical design and development, encompassing planning, creation, and assessment [17]. The process involves multiple stages: initial product design, validation of the design, division of the design into components, manufacturing, preliminary trials, first round of revisions, main trials, second round of revisions, field testing, third round of revisions, and ultimately, dissemination and implementation [20]. This is the level 4 Richey and Klein method development procedure study that was used. The following development processes are undertaken: (1) identification of potential issues and problems; (2) review of relevant literature and data gathering; (3) design validation; (4) construction of the product; and (5) distribution and application of the product. [16]

Initial research activities were conducted to survey the implementation and comprehension of Outcome-Based Education among lecturers, particularly at the Faculty of Education, Universitas Negeri Medan. This survey, which was led by Prof. Dr. Dian Armanto, M.Pd., M.A., M.Sc., Ph.D., with the support of the Deputy Dean I for Academic Affairs, was conducted to collect initial data for the research. It can be inferred from this context that implementing Outcome-Based Education in Educatio Faculty Universitas Negeri Medan requires focused efforts to enhance learning processes, especially in applying the Outcome-Based Education model to social sciences [21].

2.1 Potential and Problems

The research highlights a potential need to update learning methodologies, particularly by incorporating Outcome-Based Education. Addressing both the identified potential and existing challenges emphasizes the significance of implementing Outcome-Based Education in innovation course for social education at the primary school level. This initiative aligns with the implementation goals of Independent Learning Curriculum Main Performance Indicators 7. Implementing Outcome-Based Education in elementary school holds significant promise for enhancing learning outcomes and preparing students for future challenges. While the transition to OBE may present challenges, addressing these hurdles through effective planning, resource allocation, and stakeholder collaboration can maximize the benefits of this educational approach. By embracing OBE, Educators can create a learning environment that nurtures critical thinking, creativity, and lifelong learning skills, which are crucial for thriving in the 21st-century global context.

2.2 Reading Review and Information Collection

The literature studies in this research were obtained from reading sources, namely in the form of journals, books, as well as from scientific studies that are outcome based education.

2.3 Design Validation

Design validation for implementing Outcome-Based Education in innovation courses for elementary school social science within the elementary school teacher education study program at Universitas Negeri Medan focuses specifically on ensuring content validity and construct validity.

2.4 Product Manufacturing

Making products, namely by creating the format of lecture equipment and teaching materials are developed based on the design formulated through Focus Group Discussions., namely based on the concept of outcome based education.

2.5 Dissemination and Execution

Dissemination involves the distribution and application of the developed product to ensure it can be effectively utilized in the primary school teacher education setting. This phase includes a trial and revision process designed to refine the product and confirm its appropriateness for use in elementary school teacher education courses.

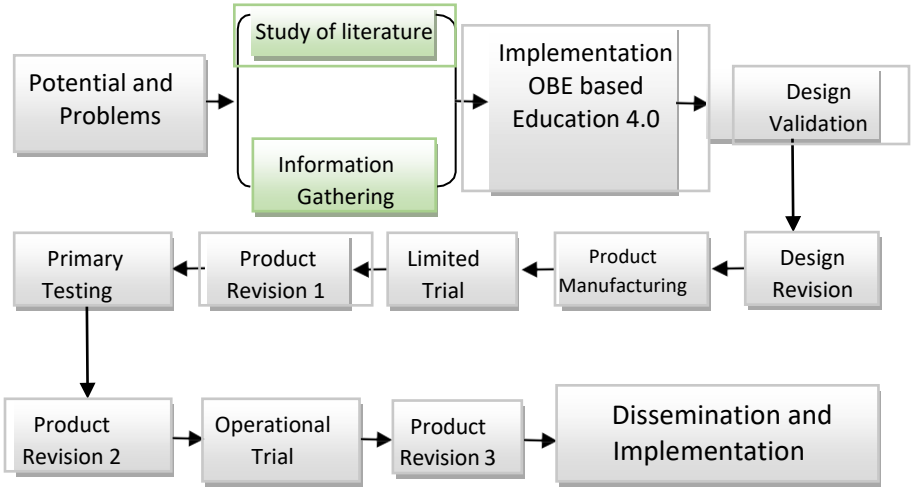

Fig. 1. **Product Development Process Flowchart (Sugiyono, 2016)

Data collection techniques included observation activities, questionnaires, and documentation of lecture outcomes using Outcome-Based Education. The gathered data was analyzed using Forum Group Discussions (FGD) to extract the research findings.

3 Result and Discussion

This research aims to investigate the implementation of outcome-based learning in social science innovation courses for primary education, employing observation surveys and data gathering methods. Medan State University utilizes outcome-based learning in these courses within the elementary school teacher education program, focusing on teaching tools, learning media, and student learning outcomes.

Outcome-based learning in innovation courses for elementary school social science at Medan State University is implemented through hybrid learning, combining offline and online methods. Lecture tools such as semester learning plans, lecture contracts, and textbooks are utilized to provide course materials and assignments. This approach seeks to illustrate the effectiveness of outcome-based learning in improving the competencies of students on primary school teacher education department. This includes fostering integrity, advancing cognitive development, and enhancing creativity and psychomotor skills.

A learning outcomes test was used in this study to gauge the degree of success in implementing outcome-based learning (OBL) for elementary school social science learning on innovation courses. The purpose of the test was to gather data on the implementation of OBL in these courses. Pretests and posttests are distributed to achieve this. In the present study, the pretest will be distributed prior to the deployment of outcome-based learning, and the posttest will be distributed following the implementation of outcome-based learning. In addition, a questionnaire is available to assess the reliability of the materials created by instructors and intended for use in the teaching and learning process. A closed questionnaire with pre-given responses is the measurement instrument [21]. Respondents only need to make a selection. Creating materials for the social science learning innovation course that are customized for use in the classroom is the research's main task. Several validators will validate the product design once it has been designed, allowing the researcher's creation to be used in a classroom setting.

3.1 Pretest Calculation Results

The pre-test was carried out by distributing learning outcome test questions related to elementary school learning innovations which were carried out before Outcome Based Learning was applied to learning. This was done to see the differences in learning using the concept of Outcome Based Learning and not using Outcome Based Learning. The first computation (pretest) results for 95 students in courses K and L during the sixth semester are displayed in the following image:

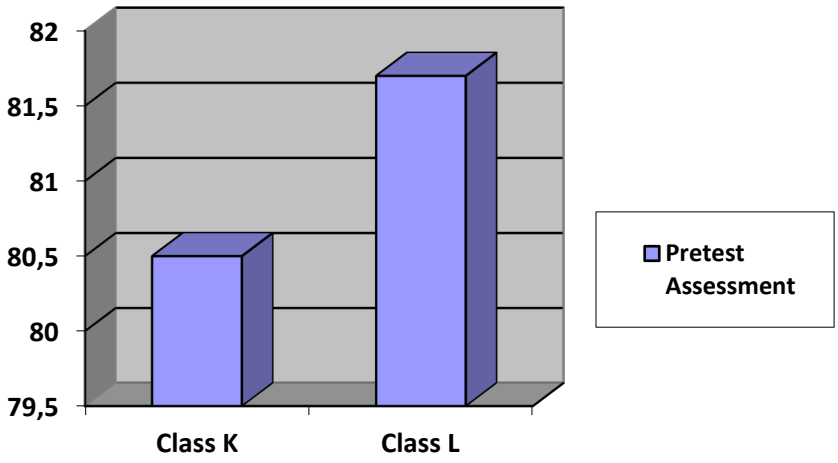

Fig. 2. Pretest Assessment

Based on Figure 2 depicting the pre-test assessment results, data shows that among 95 students, the average test scores were 80.5 for the PGSD K class and 81.7 for the PGSD L class in hybrid learning. To further enhance student learning outcomes and achieve Key Performance Indicators (IKU) 7, it is essential to introduce the concept of Outcome-Based Education for innovation course in primary school social science field within the study program of the primary school teacher education at Medan State University. This approach aims to refine teaching methods and curriculum design to better align with defined educational goals and improve overall student performance.

3.2 Findings on Content Validity and Construct Validity

This validation process includes evaluations by field experts who review the quality of the content and constructs presented. Expert lecturers in social sciences assess the teaching materials utilized in innovation courses for elementary school social science education, rating them according to established criteria. The results of these assessments are then analyzed to ascertain the level of validity, as outlined in Table 1.

Table 1. Product Validity Level Interval

Interval	Valid Criteria
$1 \leq Va < 2$	Invalid
$2 \leq Va < 3$	Not valid
$3 \leq Va < 4$	Valid
$4 \leq Va < 5$	Very valid

note: Va represents the assessment of the validity level of teaching materials used in social science learning innovation..

The result of validation for the teaching content used in elementary school social science learning innovations are presented in Table 1 below:

Table 2. Validation Results of Elementary School Social Sciences Learning Innovation Teaching Materials

No	Evaluation	Score	Criteria
Material Aspects			
1.	The material is in accordance with graduate learning achievement standards and course learning outcomes	4,35	Very Valid
2.	Teaching materials support understanding of the concept of education 4.0	3,82	Valid
3.	Teaching materials are developed according to student characteristics	4,20	Valid
4.	The material can be applied to everyday life	4,20	Very Valid
5.	Practice test questions support the concept of practice	4,00	Very Valid
Amount		20,57	Very Valid
Average		4,11	
Presentation Aspects			
1.	Book size according to standards	4,10	Very Valid
2.	The size of the letters is proportional to the format and illustration	3,80	Valid
3.	The appearance of the book is interesting to read	3,70	Valid
4.	Suitability of material to book format	4,00	Very Valid
5.	There are learning objectives	4,50	Very Valid
6.	The size and type of letters are appropriate to the student's characteristics	4,20	Very Valid
7.	There are exercises/example questions	4,00	Very Valid
8.	The material is presented systematically	3,50	Valid
9.	The use of colors, tables and images is in accordance with the education 4.0 concept	3,70	Valid
10.	Terdapat ringkasan materi	3,50	Valid
Amount		40	Very Valid
Average		4	
Language			
1.	The use of language is in accordance with the Big Indonesian Dictionary	4,00	Very Valid
2.	The spelling used in writing is in accordance with enhanced spelling rules	3,70	Valid
3.	The language used is simple, straightforward and easy for students to understand	4,00	Very Valid
Amount		11,7	Valid
Average		3,9	

Based on Table 1, the average scores for each aspect of material validation (Content Validity) are as follows: (1) The material aspect received an average score of 4.11, indicating it is highly

valid; (2) The presentation aspect achieved an average score of 4, also showing it is highly valid; (3) The linguistic aspect scored an average of 3.9, reflecting its validity. From these results, it can be concluded that the developed teaching materials for elementary school social science learning innovations are highly valid.

3.3 Posttest Calculation Results

In order to determine the degree of success of outcome-based education in elementary school especially on social science learning at innovation courses, this research conducted an assessment stage using test instruments (posttests) that were given to students. The post-test results from sixth semester of students from elementary school teacher education department at Medan State University, classes A through L, are listed below:

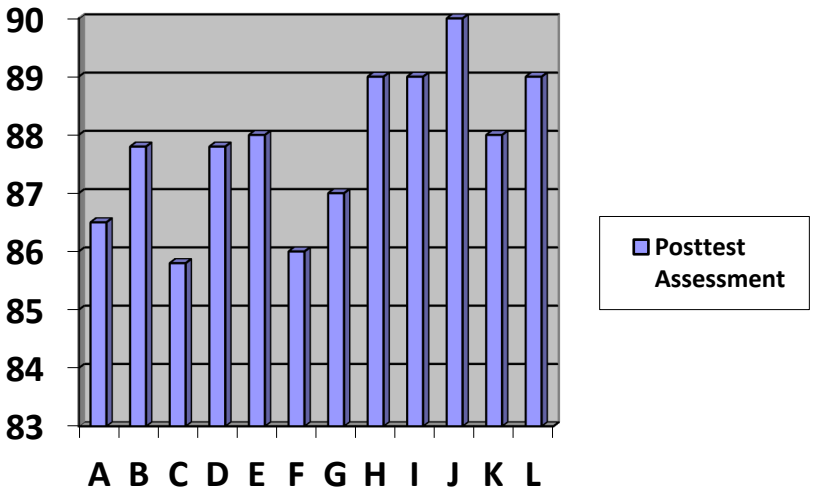

Fig. 3. Posttest Assessment

Based on Figure 3, the average post-test results after the outcome-based education learning treatment are as follows: Class A scored 85.8; B scored 87.8; C scored 85.8; D scored 87.8; E scored 88; F scored 86; G scored 87; H scored 89; I scored 89; J scored 90; K scored 88; and then L scored 89. These results indicate the outcomes achieved by students through outcome-based education.

Fig. 4. Making E-Books Becomes a Creative Teacher

Fig. 5. Developing Educational Video Content for Social Science Topics

Fig. 6. Creating a Pocket Book on Social Science Topics

4 Conclusion

The implementation of outcome-based learning, specifically within social science innovation courses in the Faculty of Education's elementary school teacher education program, adheres to an outcome-based education (OBE) model. This model integrates learning achievement indicators into semester plans, detailing both graduate and course learning outcomes. The Elementary School Teacher Education Program operates within an OBE framework consisting of three interconnected phases: (1) Outcome-Based Curriculum (OBC), (2) Outcome-Based Learning and Teaching (OBLT), and (3) Outcome-Based Assessment and Evaluation (OBAE). The primary aim of the assessment and evaluation phase is to enhance and maintain the quality of education by concentrating on achieving the defined graduate learning outcomes.

To explore the effectiveness of this approach, the study employed a methodological process that includes various stages such as product design and evaluation. The methodology followed is based on the Rickey and Klein approach, which involves several key stages: designing the product, validating the design, segmenting the design, developing the product, conducting limited trials, revising the initial product, performing main trials, making further revisions, testing in operational fields, making final revisions, and ultimately disseminating and implementing the product. The research focuses on evaluating the effectiveness of outcome-based education in social science innovation courses for elementary school students at Medan State University. The objective is to equip teachers at Medan State University with effective tools for applying outcome-based education in their teaching methods. Post-test results from these courses reveal a significant impact of outcome-based education, with average scores for classes ranging between 85.8 and 90. These positive average scores from learning assessments underscore the successful application of outcome-based education principles in the social science innovation courses for elementary school students.

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