

Implementation of Education 4.0-based Outcome Based Education (OBE) in Social Science Learning Innovation Courses in Elementary School Teacher Education Study Program

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Abstract. The basic focus of competency outcome based education (OBE) supports learning that focuses on learning competencies which are expected to be able to fulfill aspects of knowledge, skills and attitudes according to social, economic and academic culture conditions. Elementary school social science education innovation course is a course that provides theoretical and practical (applicative) conceptual mastery in designing and applying social science learning scenarios in elementary schools. The purpose of this study was to look at the forms of education 4.0-based OBE achievements in the Social Science Learning Innovation course in elementary schools at Medan State University. The research method used in this study is the research and development method. Thus, this study shows that the implementation of Education-Based OBE 4.0 shows success by looking at the feasibility of the product and the average results of learning tests given by lecturers.

Keywords: Outcome Based Education, Education 4.0, Innovation in Elementary School Social Science Learning.

1. Introduction

Competition exists for workers to get good jobs. Therefore, you need qualified and competent workers, depending on your specialty. To achieve this, you need to be able to accomplish these activities as early as possible and begin using outcome-based education (OBE) techniques. Outcome-Based Education (OBE) is a learning method that focuses on what students are supposed to do. In OBE, learning outcomes or outcomes are first identified and then learning methods and assessment plans are adapted to those outcomes. This differs from traditional learning methods where the topic to be taught is determined by the supporting instructor and the outcome is determined based on that topic.

The implementation of OBE based-education 4.0 in the Elementary School Teacher Education Study Program has three interacting stages including: (1) Outcome Based Curriculum (OBC);

(2) Outcome Based Learning and Teaching (OBLT); (3) Outcome Based Assessment and Evaluation (OBAE) with an assessment and evaluation approach carried out on graduate learning achievements to improve the quality of continuous learning. The implementation of OBE is required for all courses within the Faculty of Education, Medan State University which is perfected by forming creative, active, innovative and capable graduates who can solve a problem. The OBE concept in lectures, one of which is in the Social Sciences learning innovation subject in elementary schools, has never reached 100% eligibility, the OBE concept obtained is based on a quality assurance assessment that realization is not carried out in teaching materials, RPS, and case method-based and team-based project lecture processes..

The OBE approach allows students to engage in collaborative learning projects that integrate different curricular subjects (materials), allowing them to explore topics on their own in a variety of meaningful ways or experiment with group peers. You will have the opportunity to do the following. This method helps students get used to understanding how to solve problems in everyday life.

2. Theoretical Review

Implementation OBE Based-Education 4.0

OBE concept learning within the Faculty of Education, Unimed is carried out in the even semester of the 2021/2022 Academic Year which is carried out in all faculties at Medan State University. The OBE or Outcome Based Education curriculum is a curriculum that focuses on learning achievements which are expected to be able to fulfill aspects of knowledge, skills and attitudes in accordance with social, economic and academic cultural conditions. The tertiary curriculum is intended as a set of plans and arrangements for objectives, content and learning materials, as well as the methods used as guidelines in carrying out learning to achieve goals in higher education. Based on this meaning, curriculum planning and regulation as a curriculum cycle has several stages, starting from needs analysis, planning, development, implementation, evaluation and improvement carried out in the program.¹

The application of this OBE is required for every lecturer at Unimed, especially at the Faculty of Education, especially in the Elementary Social Sciences Learning Innovation course. In this course, development in OBE learning will be integrated with education 4.0. It is hoped that OBE learning based on education 4.0 will make learning better by keeping up with current technological education developments. Education 4.0 is a term for educational theorists to describe the interrelationships between cyber technology in learning. This cyber technology can be said to be the future of education.

Independent Learning Independent Campus (MBKM)

Merdeka Learning Merdeka Campus is a superior decree regulated by the Minister of Education and Culture which aims to create human resources by capturing university graduates who have broad insights and a collection of people who have broader knowledge. This policy was issued in connection with Permendikbud No. 3 of 2020 regarding National

¹ Ornstein, Allan.C. (2013). Philosophy as a Basis for Curriculum Decisions. [Online]. Tersedia: <http://wiki.usask.ca>

Higher Education Standards. The government's goals in introducing the Independent Learning Campus Merdeka (MBKM) policy, which enshrines the 'right of students to study for three semesters outside of academics', are as follows:

- a. Improve the qualifications of graduates in both soft and hard skills so that they have a wider range of knowledge.
- b. Support students to develop their potential in line with the knowledge-based talents and skills that correspond to their degree programmes.

Elementary School Social Science Education Innovation Course

The Innovations for Social Science Education in Elementary Schools course focuses on the theoretical and practical (applied) context of the design and application of social science learning scenarios in primary schools, towards the developmental aspects of social science learning, including knowledge, skills. This is a course that provides learning, attitude etc. Social behavior based on the development of activities, thinking skills and production of products/works, as well as global and regional issues and novelties/first consideration in the study of social sciences in primary schools.

Early Studies and State of the Art

The implementation of OBE based on Education 4.0 in the Primary School Social Science Learning Innovation Course in Primary School Teacher Training at Medan State University will be carried out in the following four stages:

- a. Designing partial outcomes and learning outcomes of graduate study in innovation courses for social science education Elementary School,
- b. Development of an Education 4.0-based OBE-integrated product consists of:
- c. Introduction of products designed for students in social science learning innovation courses in elementary schools,
- d. A previously implemented OBE success learning assessment based on Education 4.0.

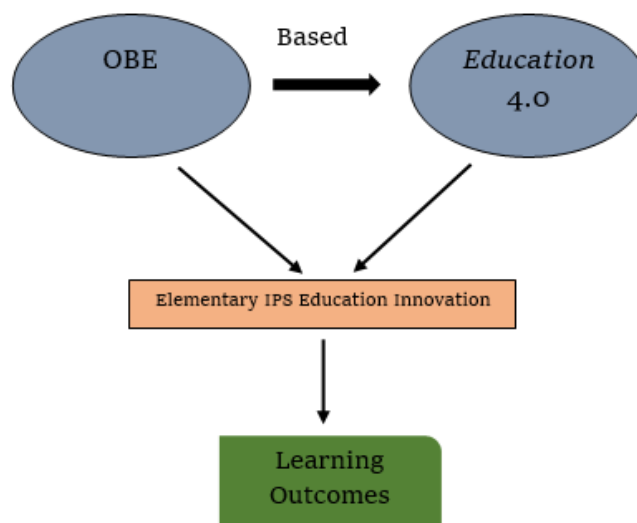


Fig 1. State Of The Art

OBE is integrated in Education 4.0, a concept built for problem-solving learning in elementary school social science educational innovation courses to acquire the student's ability to develop their creativity and competence.

3. Research Methods

The research design related to the implementation of Education 4.0-based OBE in the elementary social science education innovation course of the elementary teacher training program of Medan State University uses the research and development (R&D) method. R&D research is developmental research whose task is to validate and develop products according to research needs².

The methodology of the present study is to focus on design and development research, which is analytical in nature and includes design, production and evaluation. Richey and Klein's method development procedure, namely: (1) opportunities and problems, (2) literature review and data collection, (3) design validation, (3) product manufacturing, and (4) product distribution and implementation⁵.

The sampling technique is the whole sample, ie. the entire sample. The selection of the general sample is based on the needs and responsibilities of each student and teacher in using utesu 4.0-based OBE, so the participation of all students to obtain information mainly requires elementary school social science learning innovation courses.

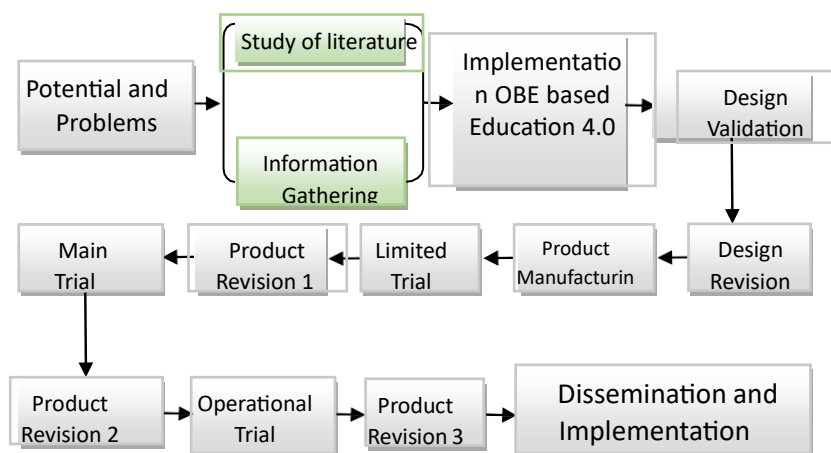


Fig 2. Product Development Procedure Chart³

² Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung : Alfabeta, CV

⁵ Richey, R. C. & Klein, J. D. (2007). Design and Development Research: Methods, Strategies and Issues. Mahwah. New Jersey: Lawrence Erlbaum Associates, Publishers.

³ Sugiyono. (2016). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: PT Alfabet. CV

Data collection techniques were carried out using observation activities, using instruments in the form of questionnaires and documentation in the form of lecture results using OBE based on education 4.0. The data obtained was then analyzed through Forum Group Discussion (FGD) to conclude the results of the research.

4. Results and Discussion

Pretest Calculation Results

Following are the results of the initial calculation (pretest) of the 95 students in semester VI of classes K and L as follows:

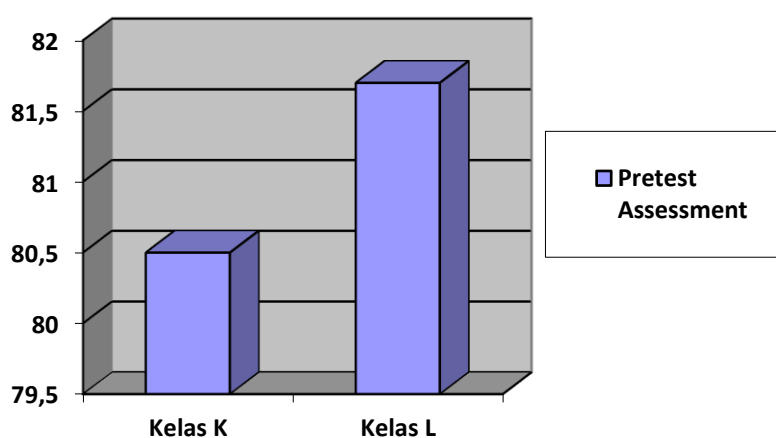


Fig 3. Pretest Assessment

From the results of the graph, it can be seen that the results of the pre-test were carried out, there was an average test of student learning outcomes based on education 4.0 in class K 80.5 and class L 81.7 in hybrid learning. In this case, it is necessary for the advanced stages, namely by providing the application of OBE based-Education 4.0 in social science learning innovation courses in Elementary Schools in elementary school teacher education at Medan State University.

Results of Content Validity and Construct Validity

This validation is done by material experts on the material content and quality of the presented structures. During the implementation of applied validity, experienced lecturers in the field of social sciences studied the material contained in the teaching materials and planned social science learning innovation courses in courses based on Education 4.0, after which the validator gave value to the materials and the plans included. in the training. study materials, the results of the validator evaluation are then analyzed to determine the level of validity obtained based on the following table:

Table 1. Product Validity Level Intervals

Intervals	Valid Criteria
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$1 \leq Va < 2$	Tidak valid
$2 \leq Va < 3$	Kurang valid
$3 \leq Va < 4$	Valid
$4 \leq Va < 5$	Sangat valid

Note:

Va = the value of determining the level of validity of social science learning innovation teaching materials based on education 4.0.

The mean score for each aspect in content validation was obtained, namely: (1) material aspects obtained an average score of 4.11 with very valid criteria, (2) presentation aspects obtained an average score of 4 with very valid criteria, (3) linguistics obtained an average score of 3.9 with valid criteria. From the data presented, it can be said that the teaching material products for social science learning innovations in elementary schools that have been developed are very valid.

Postes Calculation Results

In the present study, an evaluation phase was carried out by distributing test instruments (post-test) to students, which are useful for measuring the educational level of 4.0-based OBE in social science teaching innovation courses in primary school. The following are the results of the post-test of students of classes A-L of PGSD Unimed of the VI semester:

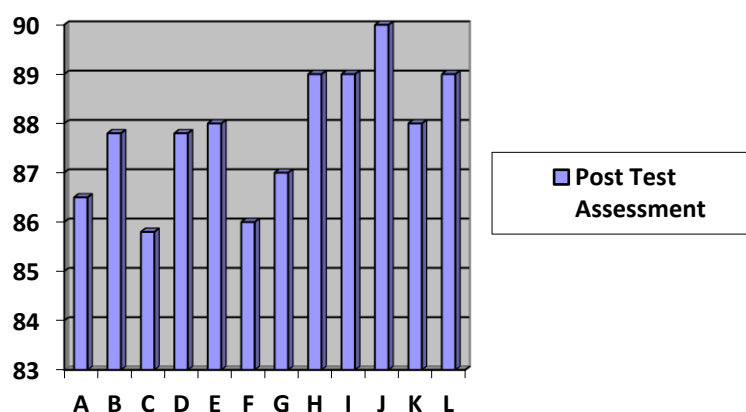


Fig 4. Post Test Assessment

Based on Figure 2, there is an average post-test result after the OBE learning treatment based on education 4.0, namely by obtaining a score of 85.8 class A, 87.8 class B, 85.8 class C, 87.8 class D, 88 class E, 86 class F, 87 class G, 89 class H, 89 class I, 90 class J, 88 class K, and 89 class L.

The OBE based-education 4.0 samples produced by students are as follows:



Making an Ebook Become a Creative Teacher



Making Learning Video Media on Social Science Materials



Making a Pocket Book on Social Science Materials

4. Conclusion

The application of education-based activity-based learning 4.0 is an efficiency-based learning 4.0 application that implements the concept of learning, which is specially designed for learning social science innovation courses in the primary school teacher training program taught by the Faculty of Education. performance indicators. in the semester study plan and has

an explanation. about the academic achievements of the graduates and the achievements of studying in the course. The results-based education paradigm of the study of primary school teacher education has three interrelated phases, including: (1) output-based curriculum (OBC); (2) outcomes-based learning and teaching (OBLT); (3) Results-Based Assessment and Evaluation (OBAAE) with the CPL Achievement Assessment and Evaluation approach to improve the quality of sustainable learning.

The procedure of this study was carried out in several stages, viz. production planning and estimating. The product development process uses the Richey and Klein method, which has four stages: product design, design validation, design distribution, product creation, limited testing, product version 1, master sample, product version 2, field testing, product version 3, and the last is distribution and implementation.

The aim of this research is to see the achievements of Outcome Based Education based on education 4.0 in the Elementary School Social Sciences learning innovation course at Medan State University. In this research, it is hoped that lecturers in the Unimed environment will be able to implement Outcome Based Education in learning based on education 4.0. The results of the implementation of Outcome Based Education based on education 4.0 in elementary school Social Sciences learning innovation courses can be seen in the students' post-test scores as follows: 85.8 class A, 87.8 class B, 85.8 class C, 87.8 class D, 88 class E, 86 class F, 87 class G, 89 class H, 89 class I, 90 class J, 88 class K, and 89 classes L. Thus, the implementation of Outcome Based Education based on education 4.0 in the Elementary School Social Sciences learning innovation course carried out in this research shows success by looking at the average good learning test results.

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