

Development of Project-Based Learning Model Through Outcome Based Education (OBE) Based Learning in Creative Economy Course, Economic Education Study Program, State University of Medan

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Abstract. The curriculum implemented by the S1 Economic Education study program at Unimed is based on independent learning with an emphasis on Outcome Based Education (OBE). In this approach, learning outcomes that include knowledge and skills must be measurable in concrete terms. To achieve accurate measurement, a project-based learning model is needed that is in line with the OBE principle and is suitable for application in this study program. It is expected that this model will be able to improve student competence, which will be reflected through their learning achievements. The researcher used the Research and Development (R&D) method, with a development approach adapted from the ADDIE model, with the following stages: (1) analysis of student characteristics and needs, (2) design of learning models, (3) development of learning models, (4) implementation, and (5) evaluation of model application. The validity of the product was tested by experts using a validation sheet instrument. This model was then tested on a limited basis by involving lecturers and students, using instruments in the form of questionnaires and interviews. The effectiveness of the model was evaluated through a one-class trial using a one-group pretest-posttest design. The research results include: (1) analysis of outcome-based curriculum (OBC), outcome-based learning and teaching (OBLT), and outcome-based assessment and evaluation (OBAE), (2) analysis of graduate learning outcomes (CPL), (3) analysis of minimum key learning outcomes (CPKM), (4) analysis of sub-minimum key learning outcomes (sub CPMK), (5) review of teaching materials, (6) application of project-based learning methods (PjBL), case study methods, and contextual methods, (7) implementation of student learning outcome assessments through creative product portfolios and videos uploaded to YouTube.

Keywords: Project Based Learning, Outcome Based Education, Learning.

1 Introduction

Indonesia still faces serious problems in terms of literacy skills, especially when compared to other ASEAN countries. This shows that students' literacy skills still need attention. One of the main causes is the implementation of conventional learning models that tend to be centered on teachers, not students. The old view that assumes teachers are the only source of knowledge needs to be changed so that learning objectives, especially in the field of economics, can be achieved more optimally. Efforts to improve the quality of learning can be carried out by using

more appropriate and innovative learning models, which actively involve students as learning subjects, not just objects. To overcome this problem, teachers are advised to use a project-based learning model with the Outcome Based Education (OBE) approach.

OBE is one of the orientations of independent learning curriculum. OBE is an organized education system and has a clear focus on students' abilities to achieve learning outcomes at the end of the teaching and learning session. Davis [1] argues that OBE is an educational approach where the curriculum produced must be driven by the learning outcomes that students will achieve after learning. [2] define OBE as a student-centered and curriculum-oriented approach where the processes involved include curriculum development, teaching, and evaluation to ensure the achievement of the expected results.[3] . The OBE approach does not focus on what is taught but focuses on what is given and ensures human resource development. Students are actively involved and develop knowledge and skills by building ideas in their own way as they understand meaningful learning experiences. This requires students to demonstrate that they have learned the necessary skills. Spady [1] to ensure that this issue is more transparent and easier to translate into action, four basic principles have been established: clear focus, expanding opportunities, high outcome expectations, and backward design [4] .

Universitas Negeri Medan (Unimed) implements steps in integrating literacy into the implementation of the Outcome-Based Education (OBE) Curriculum. The first stage is to analyze four types of literacy to identify indicators, application contexts, and evaluation strategies. Furthermore, these literacies are integrated into the learning outcomes of graduates. The third step involves developing a learning design that includes the integration of the four literacies. Then, the Semester Learning Plan (RPS) is also prepared by combining these literacies. Finally, the last stage is the implementation of authentic learning and evaluation that includes literacy integration.[5]

The implementation of the learning process in the Creative Economy course is generally given using lecture and discussion methods. As a result, students are less active in the learning process, learning outcomes are less than optimal and students have difficulty in understanding and mastering the Creative Economy course. This problem also affects less than optimal achievement both in graduate learning outcomes (CPL) or course learning outcomes (CPMK). The Project Based Learning model has advantages because it is able to motivate students to create authentic projects or works that can encourage their skills. Therefore, the application of this model is present as a suitable solution in solving the challenges felt by lecturers and students.[6]

Project based learning emphasizes the application of knowledge and emphasizes student independence to answer real problems related to the process and results. Based on the problems above, R&D research was conducted aimed at analyzing the development of a project model (PJBL) based on Outcome Based Education (OBE) in the Creative Economy course.[7]

2 Literature Review

Outcome-Based Education (OBE) is an approach that emphasizes the sustainability of interactive, innovative, and effective learning activities. OBE affects all aspects of education, from curriculum design, setting learning objectives, teaching strategies, designing learning methods, to assessment methods and creating an educational environment. As explained in the book Outcome-Based Education, the basis for implementing OBE lies in the development of a

curriculum that is suitable for the industrial era 4.0, where education is closely related to the use of science and technology as well as national regulations and standards related to national-level accreditation or certification.[8]

The student-focused education model is one manifestation of the OBE concept. OBE is a learning approach that places students at the center, with an emphasis on performance assessment through outcomes that include knowledge, skills, and attitudes[9]. The application of the OBE concept that is adjusted to the curriculum in Indonesia can be achieved as expected. OBE brings iterative educational reform, based on a learning philosophy that refers to the criteria of Project-Based Learning, namely student-centered, problem-focused, involving investigation or constructive design, freeing students, and relevant to the real world[10]. The main components of Project-Based Learning are:

- (1) Provide questions or issues raised to organize and initiate activities, and emphasize meaningful projects,
- (2) The final result or a number of products as a series of activities,

The Project Based Learning (PjBL) model is a model that emphasizes stages and problems, has a certain time period, and its learning elements are meaningful by combining various concepts from other elements, in the form of information, fields of science, and experience. [11]. Bie emphasized that Project Based Learning is a model that emphasizes various concepts and basic principles of scientific disciplines, involves students in problem-solving learning and various activities that have other meanings, provides opportunities for students to build their own knowledge, and produces valuable and real student work. So, in this learning, students are able to improve their learning behavior with more discipline and are able to encourage students to play an active and creative role during learning.[12]

The stages of learning in Project Based Learning by The George Lucas Educational Foundation are:

a. Start with a basic question

The process begins with a topic relevant to real life, accompanied by in-depth investigation. Key questions are presented to explore students' knowledge, responses, criticisms, and ideas related to the project theme to be raised.

b. Planning project implementation rules

The planning stage includes setting rules, selecting activities that support answers to important questions, integrating as many subjects as possible, and selecting available tools and resources to assist in completing the project.

c. Make a schedule of activities

Educators and students work together to create a schedule of activities to ensure project completion. This schedule is also designed to determine the estimated time for completing the project as a whole.

d. Monitoring the progress of student projects

Educators are responsible for monitoring student progress during the project process. This monitoring is done by facilitating each stage that students go through.

e. Assess student work results

Assessment aims to make it easier for teachers to measure standard achievement, assess the progress of each student, provide feedback regarding the understanding that has been achieved, and make it easier to design further learning strategies.

f. Evaluating student learning experiences

At the end of the lesson, the teacher and students reflect on the activities and results of the completed project. This is done individually or in groups, where students are invited to express their feelings and experiences during the project work process.[13]

The advantages of implementing the Project Based Learning Model are:

- 1) Problem Solving (teaching students to be able to solve several problems they experience),
- 2) Independent Learning (cultivating and training a sense of responsibility, initiative and freedom to learn independently),
- 3) Creative Thinking (training students' creative abilities to make new things),
- 4) Real World Connection (training students to relate the concepts they learn so that they can be applied to solving problems in the real world),
- 5) Cooperative and Collaborative Learning (training students to share and work together),
- 6) Reflection (students practice expressing and retelling the learning experiences they have gained),
- 7) Original Materials (there are original products made by students)[14]

3 Research methods

This research is a Research and Development (R&D) research. Sugiyono said that R&D is a research method that is designed systematically and aims to create, improve, and develop certain products, while testing their effectiveness (2016: 407)[14]. R&D does not only focus on product innovation, but also on the development of superior, new, efficient, effective, productive, and relevant models, methods, strategies, or approaches, so that they have a significant impact on improving the quality and results of research.[15]

3.1. Type of Research

This study applies the Research and Development (R&D) method, where the development process follows the ADDIE (Analysis, Design, Development, Implementation, Evaluation) design model. The ADDIE model, developed by Dick and Carry, is designed to build a learning system. This study uses the ADDIE model, which includes:

- 1) Needs analysis,
- 2) Initial prototype design,
- 3) Validation,
- 4) Revision,
- 5) Limited trial,
- 6) Revision

3.2. Types of data and data collection techniques

This study uses qualitative and quantitative data. Qualitative data were collected through interviews, observations, and input from validators. Interviews were conducted after the last cycle, where several students were asked according to the guidelines that had been made. Quantitative data were obtained from validator assessments using validation sheets, which were then analyzed by percentage. In addition, needs analysis data were collected through initial observations, interviews, and literature reviews related to creative economy learning. This data became the basis for designing the initial prototype of the Project-Based Learning learning

model. After the prototype of the Project-Based Learning model was completed, the next step was to conduct a validity test involving validators with expertise in the field of creative economy learning models. After being declared valid, the model was tested on students taking the creative economy course to assess its effectiveness. The practicality test was carried out by distributing questionnaires to the lecturers involved.

3.3 Research Stages

1. Analysis

This stage aims to identify and determine the needs in learning. At the beginning of the research, researchers analyze to determine the learning objectives and limitations of the material to be improved with the following stages:

- a. Pre-post analysis: This step focuses on identifying the main problems that occurred, while considering several learning alternatives that can be implemented.
- b. Student analysis: student characteristics are analyzed in depth, including their abilities, learning experiences, and attitudes toward the learning topic. Consideration is also given to the selection of appropriate media, learning formats, and language.
- c. Task analysis: identifying the core skills required, then breaking them down into structured sub-skills.
- d. Concept analysis: analyzing the key concepts to be taught, organizing them in an orderly manner, and selecting specific concepts.
- e. Formulation of learning objectives: Based on the results of task and concept analysis, this step turns them into specific and measurable learning objectives.

2. Design

This stage is useful for designing a learning device prototype and starting with setting learning objectives. There are four steps in this stage:

- a. Benchmark test development: This step connects the analysis phase with the design phase. Benchmark tests serve to transform specific objectives into a learning material framework.
- b. Media determination: selecting the most appropriate media to present learning materials, carried out after compiling the trial.
- c. Determining the format: The selection of the learning format is closely related to the determination of the media, where the best format is selected based on various factors that influence the learning process.
- d. Initial design: the core learning activities are designed, including the most appropriate media, as well as the activities to be carried out during the learning process.

3. Development

This stage aims to create a prototype of learning devices. Before being implemented, the devices that have been developed with the following stages:

- a. Expert assessment: aims to obtain input for improvement. Several experts are asked to assess the learning tools, and based on their recommendations, the tools are refined to be more appropriate, effective, useful, and of high quality.

- b. Development trial: conducting limited trials. Based on feedback, responses, and comments from students, observers, and lecturers, the learning device is modified. The cycle of testing, revising, and retesting is repeated until a consistent and effective device is achieved.

Development is useful for creating and validating the specified learning resources. In order to implement planned learning, teachers need to identify the learning resources needed to complete this Development stage. Furthermore, the selection or development of all the devices needed for the learning process is carried out, followed by evaluation of learning outcomes and completion of other stages in the ADDIE learning design series. The results of this stage are expected to be able to create a comprehensive set of learning resources, containing all content, learning strategies, and other Learning Strategy Plans.

To support the implemented learning model, it is important to have appropriate educational media and comprehensive guides for each learning session and independent activities, which can help students develop their knowledge and skills. This comprehensive guide will greatly assist lecturers in guiding students during the interaction process in planned learning. At the development stage, lecturers are also responsible for designing formative evaluations and validating them in order to make necessary revisions. The main focus of lecturers should be on delivering effective learning and building student confidence during the learning process by utilizing available learning resources, so as to cover the gaps in learning performance caused by students' limited knowledge and skills.

4. Implementation

stage is to prepare a conducive learning atmosphere and make students active while learning. General procedures at this stage include preparation of lecturers and students. Lecturers must match the real learning environment, so that students are able to improve their knowledge and new skills needed to overcome their performance gaps in learning. Development and evaluation mark the end of the implementation phase. Most ADDIE approaches utilize the implementation stage in moving on to summative evaluation activities and other strategies that support the learning process. The output of this stage is the implementation design, which includes plans for students and plans for facilitators. Lecturers are expected to be able to manage study programs well in delivering implementation strategies effectively.

5. Evaluation

Evaluation is useful for assessing the quality of the product and the teaching process, both before and after the implementation stage. General stages related to this phase include determining evaluation criteria, selecting appropriate evaluation tools, and implementing the evaluation itself. Lecturers need to identify the level of success in learning and provide recommendations for improving competencies in the future, with a similar scope and focus in the evaluation process. The result of this stage is an evaluation plan, which includes a summary of objectives, data collection tools, schedules, and individuals or groups responsible for each specific level of evaluation. The main components of the evaluation plan consist of a set of summative evaluation criteria and the necessary evaluation tools. Lecturers should direct attention to measuring the evaluation plan during the learning process with students. Gaps in learning performance are the basis for assessing and evaluating decisions made.

4 Results and Discussion

4.1 Research Results

Data found in the field show that lecturers plan Creative Economy learning based on OBE with a focus on creative products, as stated in Table 1. From Table 1, two lecturers were found who implemented the Creative Economy learning design based on OBE completely and systematically. The effective learning design process begins with an analysis of the graduate profile through 3 stages, namely outcome based curriculum (OBC), outcome based learning and teaching (OBLT), and outcome based assessment and evaluation (OBAE).

Table 1. Creative Economic Learning Designs Carried Out by Lecturers

Participant	Creative Design	Economy	Learning	Formulation of Postgraduate Study Program
D1	<i>Outcome-based curriculum</i>	(OBC),	Become a professional teacher in your field	
	<i>outcomes-based learning and teaching</i>	(OBLT), and results-based	innovative.	A creative and vibrant economy
	<i>assessment and evaluation</i>	(OBAE).		
D2	<i>Outcome-based curriculum</i>	(OBC),	Become a professional teacher in your field	
	<i>outcomes-based learning and teaching</i>	(OBLT), and results-based	innovative.	A creative and vibrant economy
	<i>assessment and evaluation</i>	(OBAE).		

First, Outcome Based Curriculum (OBC) is a curriculum development concept that is oriented towards the profile and learning outcomes of graduates (CPL), which is then synthesized into a body of knowledge as a guideline in designing Semester Learning Plans (RPS), along with the development of teaching materials and the preparation of learning achievement evaluation instruments. Second, Outcome Based Learning and Teaching (OBLT) refers to the selection of forms and methods or learning models that are appropriate for students based on CPL. Third, Outcome Based Assessment and Evaluation (OBAE) is an assessment approach based on CPL to ensure the quality of continuous learning. The assessment process is carried out during learning activities, and the results are used to improve the continuity of learning in the Creative Economy course.

The decomposition of CPL into CPMK, and sub-CPMK by lecturers to compile learning designs for Creative Economy courses based on OBE and oriented towards creative products, such as Table 2:

Table 2. CPL, CPMK, and Sub-CPMK for CREATIVE ECONOMY Courses

Participant	CPL – S	CPMK	Sub- CPMK
D1 and D2	Internalizing academic values, norms, and ethics; CPL (P): Understand the theoretical concepts of	Students can understand the evolution and waves of the new economy, the concept and context of the	Sub-CMPK1: Able to analyze the Evolution and new economic waves; Sub-CPMK2: Able to analyze the concept and context of

developing creative economic learning; CPL (KU): can implement critical, logical, systematic and innovative thinking in the context of implementing science and technology that considers and applies the values of creativity and innovation according to their field of expertise; CPL (KK): can appreciate, express, create creative and innovative works verbally and in writing.	creative economy, the basic capital and actors that drive the creative economy, the value chain and value-added creation models in the creative economy, the creative industry, resources in the creative economy, conditions and factors that shape creative and innovative characters, and the development of the creative economy.	the creative economy; Sub-CPMK3: Able to analyze the basic capital and driving actors of the creative economy; Sub-CPMK4: Able to analyze the value chain and value creation model for the creative economy; Sub-CPMK5: Able to analyze the creative industry; Sub-CPMK6: Able to analyze creative economic resources; Sub-CPMK7: Able to analyze conditions and factors that form creative and innovative characters, Sub-CPMK8: Able to analyze creativity management,
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The learning method for the Creative Economy course based on OBE and oriented towards creative products in the Economics Education Study Program, State University of Medan is shown in Table 3. The results show that lecturers teach the Creative Economy course in a measurable, structured, and planned manner, thus providing a direct contribution to the achievement of the Graduate Learning Outcomes (CPL) set. Learning analysis for the Creative Economy course was conducted to identify the final competencies at each stage of student learning or Sub-CPMK, which is an elaboration of the Creative Economy CPMK formulation. The stages of compiling the Sub-CPMK in the Creative Economy course include a hierarchical structure and a procedural structure. The hierarchical structure means that to learn competency A, students must first learn competency B vertically. Meanwhile, the procedural structure means that to master competency A, students need to learn competency B horizontally, namely from easier material to more difficult material, and combining the two forms.

Table 3. Learning Methods for Creative Economy Courses

Participant	Learning Stages	Method	Characteristics
D1	Hierarchy, procedural	SCL, PjBL, Case Method	interactive, holistic, integrative, scientific and collaborative
D2	Hierarchy, procedural	SCL, PBL, PJBL	interactive, holistic, integrative, contextual, scientific, and collaborative

The implementation of learning analysis for the Creative Economy course has several important objectives: (a) identifying all competencies that students must master at each stage or sub-material in accordance with the Course Learning Outcomes (CPMK) that have been set, (b) considering students' initial abilities as a basis for starting the learning process, (c) determining the steps and stages of implementing learning hierarchically and procedurally, (d) conducting continuous reflection on the learning process, and (e) designing a systematic, measurable learning plan that can be implemented gradually and efficiently to achieve the Learning Outcomes (CPL) objectives that have been determined in the course.

Assessment of student learning outcomes in the Creative Economy course based on OBE and oriented towards creative products is shown in Table 4. Based on the learning outcomes that have been set, assessments are carried out in three domains: attitudes, knowledge, and skills. Assessment for the attitude domain is carried out through observation, self-assessment, peer assessment, and evaluation of personal aspects and effective interaction with the social environment. For the knowledge domain, assessments are carried out through written tests, either directly or indirectly, in the form of projects or case resolution. Meanwhile, assessment of the skills domain is carried out through performance assessments that can be expressed through creative products of North Sumatra culture. The assessment instrument uses a continuous portfolio format, which is based on a collection of information regarding student learning outcomes, including work results such as papers and creative products. This portfolio of student work is a representation of their best learning performance.

Table 4. Learning Achievements of Creative Economy Course

Participant	Sign Test	Portfolio Value	Product Form
58 Students	A	Very good (score > 85)	Creative product works produce crafts in the form of: souvenirs, woven baskets, tissue holders, decorative lamps, culinary (North Sumatra regional food)
2 Students	English	Very poor (score < 65)	Not attending class and not doing the assigned assignments.

Student learning outcomes in the area of concept mastery show that 34 people got an A in class A, 24 people got an A and 2 people got an E in class B. Creative product works produce crafts in the form of: souvenirs, woven baskets, tissue holders, decorative lamps, culinary (North Sumatra regional food)

4.2. Discussion

The learning design carried out by lecturers begins with an analysis of graduate profiles through 3 steps, namely outcome based curriculum (OBC), outcome based learning and teaching (OBLT), and outcome based assessment and evaluation (OBAE). This approach is in accordance with the concept proposed by the Director General of Higher Education, Ministry of Education and Culture 2020 (Junaidi et al., 2020) regarding the preparation of higher education curriculum in the industrial era 4.0 to support the MBKM program. Lecturers design learning with the outcome based learning and teaching (OBLT) stages, which focus on selecting the right form and method or learning model for students based on Learning Outcomes (CPL). Furthermore, at the outcome based assessment and evaluation (OBAE) stage, evaluation is carried out based on CPL to ensure the quality of continuous learning. Regarding D2, it is explained that the OBC stage reflects the form or method that students will learn according to

the CPL in the Creative Economy course, while the OBLT stage is already in the CPL with the learning model applied in the course. The preparation of CPL and CPMK by lecturers in Creative Economy learning takes into account the needs of students, the learning environment, and the demands of society. This shows that the Creative Economy learning program is not only measured based on learning objectives, but also based on Learning Outcomes (LPM), which are based on the needs of students and society and the competencies that must be mastered by students related to certain courses.

Graduate Learning Outcomes (CPL) of the Economics Education study program at Medan State University are applied to the Creative Economy course, covering CPL-attitudes, knowledge, general skills, and specific skills with a similar concept. This is based on the results of discussions in the focus group discussion forum (FGD) which agreed that the determination of CPL for Creative Economy must refer to curriculum evaluation, tracer studies, and stakeholder needs. Lecturers at Medan State University's Economics Education have a consistent view regarding the Creative Economy Sub-CPMK, which is a development of the established CPMK. Considerations of the characteristics of the Sub-CPMK include specific, measurable, achievable, realistic, and time-bound, in accordance with the guidelines of the Directorate General of Higher Education, Ministry of Education and Culture in 2020. The terms used must reflect knowledge, attitudes, and skills, have measurable student learning achievement targets, and reflect the competencies mastered and real achievements achieved by students.

The interactive learning process carried out by lecturers involves two-way interaction between lecturers and students. In addition, lecturers apply a holistic approach to learning, which encourages the formation of a comprehensive and broad mindset by integrating local wisdom and culture of North Sumatra. To achieve Graduate Learning Outcomes (CPL), an integrative model is applied that ensures the learning process includes various scientific approaches, both interdisciplinary and multidisciplinary. Furthermore, lecturers adopt a scientific and contextual approach, emphasizing the value system, norms, and scientific ethics, and adjusting to the needs of problem solving through project-based learning (PjBL). Various forms of mutually supportive interactions, both personally and interpersonally, are prioritized to strengthen students' attitudes, knowledge, and skills.

The learning model for the Creative Economy course is implemented by lecturers with a project-based approach, which is designed to help students develop creativity through problem-solving activities. This approach is very effective in fostering basic skills that students need to have, such as decision-making skills, creativity, and problem-solving abilities. This is in line with the opinion of Aktamis & Ergin [15], which states that creative individuals are able to face and solve new challenges in everyday life. In addition, creative individuals tend to be more sensitive to issues in society. In the context of project-based learning, students are also expected to improve their competence in terms of observation, drawing conclusions, and conducting experiments, which are part of scientific process skills.

Based on the evaluation results of the CPMK and Sub CPMK of the Creative Economy course, the lecturer implemented a comprehensive portfolio that includes all student work during the learning process. The results showed that there were 34 students who achieved an A in class A, 24 students received an A, and 2 students received an E in class B. The creative product works produced included various items, such as souvenirs, woven baskets, tissue holders, decorative lamps, and culinary specialties from North Sumatra. This finding is in line with research conducted by Marmoah & Kasiono[16] and Setiawan & Hariadi[17], which indicated that the Outcome Based Education (OBE) learning approach is able to produce creative products. In

addition, a study by Sutriyati, Mulawarman, & Hudiyono (2019) showed that project-based learning that utilizes local wisdom can provide significant benefits for educators and students. In this context, the teacher acts as a facilitator and mentor, who has the ability to design and develop learning processes so that students can discover and experience the process directly, while also designing projects that produce products from the learning itself

5 Conclusion

According to the research results on Creative Economy learning based on OBE and oriented towards creative products, it can be explained that Economic Education lecturers have taken a number of steps in implementing the learning. These steps include: curriculum analysis based on results (Outcome Based Curriculum/OBC), learning and teaching oriented on results (Outcome Based Learning and Teaching/OBLT), and assessment and evaluation oriented on results (Outcome Based Assessment and Evaluation/OBAE). In addition, lecturers also analyze learning outcomes (CPL), course learning outcomes (CPKM), and sub-course learning outcomes (Sub CPMK), as well as analyzing teaching materials or materials. Learning is carried out using the Student-Centered Learning (SCL) approach, using the Project-based Learning (PjBL) method, case method, and contextual. Finally, the assessment of student learning outcomes is carried out through comprehensive tests and portfolios that include creative products containing local wisdom.

6 Suggestion

Learning based on outcome based education (OBE) applied in higher education, especially in the Faculty of Economics, has a significant impact on increasing student creativity. This is achieved through assignments from lecturers that require students to be directly involved in the field to study phenomena that occur in society. In addition, lecturers can also design relevant lecture assignments and support the learning process in accordance with the developments needed by the industrial world through assignments, providing projects and case studies can train students to increase creativity and innovation so that it is expected to advance the creative industry in North Sumatra and contribute to increasing the GRDP of North Sumatra Province through the creative economy.

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