

## OBE-Oriented Teaching Material for Visual Media Development: Supporting the Internationalization of the Educational Technology Study Program

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### Abstract

*Globalization in higher education demands innovative learning resources that support international collaboration and digital-based instruction. Responding to this need, this study develops Outcome-Based Education (OBE)-based visual media lesson plans to strengthen the internationalization of the Educational Technology Study Program. This study used the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model. A research and development approach was employed, involving expert validation and limited field trials with students in an Educational Technology program. The developed materials include OBE-aligned digital modules, instructional videos, worksheets, and project-based assessments integrated into an online learning management system. Validation results indicate a high level of feasibility in terms of content relevance, media quality, and visual design, while student trials suggest that the materials are practical and supportive of independent and collaborative learning. This study contributes a practical model for integrating OBE principles into digitally mediated courses that support international collaboration in higher education. The impact of this study lies in its contribution to improving students' global competencies, encouraging inter-institutional collaboration, and accelerating the internationalization of the Educational Technology Study Program. In addition, this study contributes to improving the quality of education in alignment with SDG 4 on Quality Education and strengthening internationalization efforts through global partnerships consistent with SDG 17 on Partnerships for the Goals.*

**Keywords:** Teaching Materials, Visual Media, Lesson Plan, Outcome-Based Education

**SDGs:** Goal 4 (Quality Education), Goal 17 (Partnerships for the Goals)

### Manuscript History

Received: August 19, 2025

Revised: November 13, 2025

Accepted: December 25, 2025

### How to cite:

Dewi, U., et al. (2026). OBE-Oriented Teaching Material for Visual Media Development: Supporting the Internationalization of the Educational Technology Study Program. *International Journal of Research and Community Empowerment*, 4(1), 42-49. DOI: <https://doi.org/10.58706/ijorce.v4n1.p42-49>.

## INTRODUCTION

The continuity of higher education is a deciding factor in the shaping of human resources who are well equipped and internationally competitive. The higher education institutions are in charge of providing maximum learning services to the learners that construct knowledge, capacities, and values for issues in the 21st century (Gryshova et al., 2019). Skills of the modern era, critical thinking, creativity, collaboration, and communication—help learners manage rapid technological innovation and complexity in social change (Amalia & Halim, 2022). Pervasive use of information and communication technology (ICT) has transformed the landscape of higher education so that incorporation of technology-enhanced learning (TEL) is necessary these days to ensure interactive, flexible, and personalized learning (Goodchild & Speed, 2019).

One of the pedagogical approaches that has gained significant attention in higher education reform is Outcome-Based Education (OBE). OBE emphasizes the alignment of learning outcomes, instructional activities, and assessment to ensure that graduates achieve clearly defined competencies that are relevant to professional and international standards, its usage in the context of teaching materials for visual media remains negligible students (Sulistyaningsih & Nugraha, 2022). Most of the earlier work touched only upon curriculum planning, alignment of assessment, or overall learning outcomes, while fewer discussed the implemented application of OBE principles in the planning of digital or visual learning material. Apart from this, academic studies of internationalization of higher education programs have been more inclined to institutional cooperation than pedagogical design towards global and national competency demands (Benita & Surjanti, 2025; Zanin et al., 2020; Fadilah et al., 2023). This indicates a demand for the integration of OBE-based pedagogical design, technological advancement, and global competitiveness as a means to raise the quality as well as global competitiveness of higher education.

Several studies have shown that the Outcome-Based Education (OBE) model prioritizes specific, measurable learning outcomes aligned with international and professional standards (Ishaq et al., 2023; Aminah et al., 2025; Padli, 2022). This ensures alignment between graduate learning outcomes, course learning outcomes, and sub-course indicators, making education accountable and performance-based. Concurrently, new trends in technology and media literacy studies have highlighted the role of innovation and technological competence at the university level (Brovchenko, 2024; Hapidin et al., 2024). In this context, the Visual Media Development course is a strategic course for developing students' visual design, media production, and creative communication skills aligned with global learning outcomes.

The OBE-based learning material for the Visual Media Development course has to be designed keeping in mind numerous critical factors for it to be effective and up-to-date. Firstly, the learning environment needs the material to be adaptable to accommodate face-to-face, online, and blended modes (Niyomves et al., 2024). The second factor entails dealing with the characteristics of students in terms of learning styles, existing knowledge, and individual differences through multiple approaches and interactive multimedia. Third, technological improvement and changing fashion in design require regular updating to keep pace with the present and provide learners with up-to-date skills (Kanvaria & Yadav, 2024). Finally, international educational technology standards and visual design standards guarantee global quality and competitiveness. When all four of these elements learning environment, diversity of learners, technology, and international standards are synthesized, they facilitate the production of effective, future-focused teaching materials (Taghaddomi & Mazandarani, 2024).

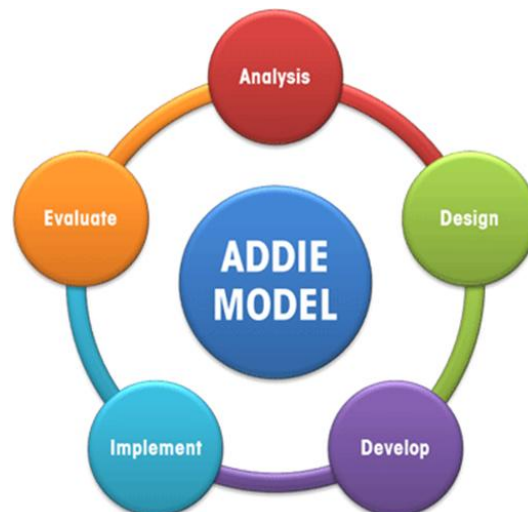
Although previous studies have explored OBE implementation in higher education and the use of digital media in learning, empirical research focusing on the development of OBE-oriented teaching materials for visual media courses that explicitly support program internationalization remains limited. Most studies emphasize curriculum alignment or institutional collaboration, while pedagogical design at the course material level is often overlooked. This study addresses this gap by developing and validating OBE-oriented visual media teaching materials designed for cross-institutional and international online learning.

Therefore, this study aims to develop and validate Outcome-Based Education-oriented teaching materials for the Visual Media Development course using the ADDIE instructional design model. Specifically, this research seeks to produce teaching materials that align learning outcomes, instructional activities, and assessment while supporting online, independent, and collaborative learning in an international context (Kristanto, 2016; Podmetina et al., 2020). Theoretically, this study contributes to the literature by providing an applied model for integrating OBE principles into digital and visual media teaching materials. Practically, the findings offer a reference for educators and higher education institutions seeking to strengthen course-level internationalization through pedagogically grounded and outcome-oriented instructional resources, thereby supporting the broader goals of quality and inclusive education in line with Sustainable Development Goal 4.

## **METHOD**

The model employed in building this learning is the ADDIE model, as shown in Figure 1 (Adeoye et al., 2024). Production of a multimedia product requires a procedural and systematic process. Every step should be executed accurately because the first process will determine the end result. This model was selected as the ADDIE model is typically applied for describing a systematic instructional development approach (Lu & Sides, 2022). In addition to that, the ADDIE model is a learning generic model and can be applied in development research (Almelhi, 2021). It is almost synonymous with instruction system development. In development, the process is sequentially interactive with the result of each stage's evaluation having the capacity to affect

learning development all the way back to the previous stage. The product of a stage is the first output of the next stage.



**Figure 1.** ADDIE Model

According Figure 1, the ADDIE framework is a recursive process that develops over time and keeps on executing throughout the entire instructional planning and delivery process (Abuhassna et al., 2024). Following is a definition of the five steps of ADDIE development model: (a) Analysis, this analysis stage is the first step in the process of development. In this step, a needs assessment is conducted to determine the cause of the issues through interviews carried out by researchers. Depending on the results of the interviews, multiple issues are identified, and solutions are developed to address these issues. (b) Design, or the planning stage. Planning involves ideas or concepts of what one will learn and a master plan of what material will be used. (c) Development, this is where the master plan or design is executed. Everything that is required or will aid in the learning process should be done in this stage. (d) Implementation is the process of actually implementing the learning system that is engineered. Implementation is the fourth stage. Here, the product that is developed starts to be practised and tested in teaching and learning. Therefore, preparations by both lecturers and students for online learning are required. This is an attempt to see whether online learning is a success or not. (e) Evaluation, which is undertaken after online learning has been introduced to students for pilot testing. Developers will give pretest and posttest questions to students to determine the outcome of their learning. The evaluation step involves marking the learning program. In addition to evaluating the program, attempts can be implemented at every step in the ADDIE model.

The research subjects are individuals who participate in and are directly involved in this study. In the development of this learning material, the experimental subjects consisted of two subject matter experts, who are lecturers from the Educational Technology Study Program; two media experts, who are also lecturers currently teaching in the same program; and students enrolled in the Visual Media Development course in the Educational Technology Study Program. The small group trial involved 20 students from universities located in the Surabaya area, who participated to assess the practicality and effectiveness of the developed instructional materials.

Data collection instruments are used to gather the data required for a study. Generally, there are several methods that can be used to collect the necessary data for this study, such as questionnaires, interviews, and documentation. However, in this study, the method used is a questionnaire. A questionnaire is a set of written questions used to obtain information from respondents. The questionnaire method is used to determine the level of suitability of the developed product.

The measurement scale used by researchers in analyzing data is the Guttman scale. This type of scale yields definitive answers, such as “yes–no,” “right–wrong,” “ever–never,” and “positive–negative” (Sugiyono, 2015). The Guttman scale was chosen because it allows for clear, categorical responses, making it easier to determine the level of agreement or validation among experts and students, and ensuring an objective and straightforward interpretation of the feasibility and effectiveness of the developed instructional materials. The questionnaire data from students, learning design experts, media experts, and material experts is represented as percentage. To give meaning to the percentage, the results of the formula calculation are related to

determining the level of success of online learning. The feasibility level of the revision criteria is shown in Table 1.

**Table 1.** Product Revision Criteria Eligibility Level

Percentage	Criteria	Description
81% - 100%	Very good	No revision
61% - 80%	Good	No revision
41% - 60%	Quite good	Revision
21% - 40%	Not good	Revision
0% - 20%	Not very good	Revision

## RESULTS AND DISCUSSION

The visual media development course is a practice-based course that requires students to not only understand media development theory but also be able to apply it directly in the form of visual products that are relevant to learning needs. Therefore, teaching materials that support active, independent, and contextual learning are needed especially in an online format that can reach students from various institutions, both domestic and international.

This research resulted in a digital teaching material product designed in accordance with the semester learning plan based on outcome-based education (OBE), taking into account learning outcomes, student characteristics, and internationalization requirements. This teaching material was developed using the ADDIE model, which includes the stages of Analysis, Design, Development, Implementation, and Evaluation. Figure 2 shows the cover of the learning material.

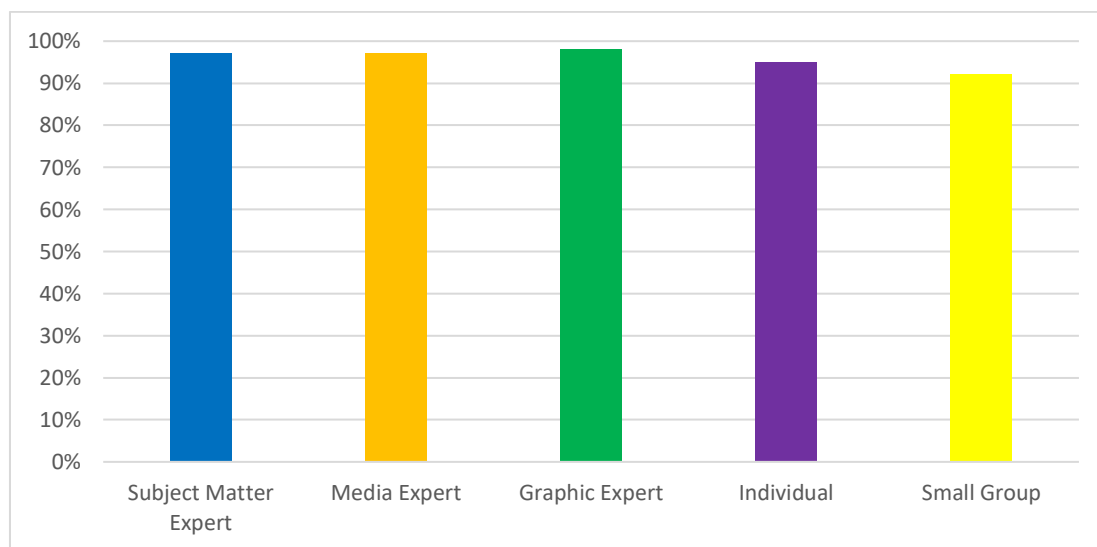


**Figure 2.** Cover of The Learning Material

To measure the quality and suitability of the teaching materials, validation was conducted by experts (Figure 3). The validation results showed that subject Matter Experts gave a rating of 97%, indicating that the content of the teaching materials was highly relevant to learning needs and expected learning outcomes. Media experts gave a rating of 97%, indicating that the technological aspects and media presentation in the teaching

materials meet the quality standards for online learning media. Graphic design experts gave a rating of 98%, indicating that the visual, aesthetic, and readability aspects of the media are excellent and support student understanding.

In addition to expert validation testing, field trials were also conducted with students from the Educational Technology Study Program in the individual trial phase (3 students), a score of 95% was obtained, indicating that the teaching materials were very helpful and easy to use in the independent learning process. In the small group trial stage (6 students), a score of 92% was obtained, indicating that the teaching materials were highly effective in supporting collaborative learning.



**Figure 3.** Results of The Feasibility Test of The Development Results

This teaching material is integrated into the SIDIA Learning Management System (LMS), with a format that allows cross-campus and cross-country access. The learning materials consist of syllabi, digital teaching materials, instructional videos, worksheets, and project-based assessments. All of these components have been adapted to the principles of internationalization and MBKM (*Merdeka Belajar Kampus Merdeka* / Independent Learning Independent Campus).

Overall, the development of this instructional material not only contributes to improving the quality of online learning but also strengthens the international competitiveness of the Educational Technology Study Program. This product supports the creation of a flexible, collaborative, and open learning ecosystem, particularly in the context of collaboration between similar universities at the national and international levels (Yang et al., 2023; Zhu & Li, 2024).

The results indicate that the developed teaching materials successfully operationalize Outcome-Based Education principles at the course level by ensuring alignment between learning outcomes, learning activities, and assessment strategies. High validation scores from subject matter, media, and graphic design experts reflect not only the technical and visual quality of the materials but also their pedagogical coherence. This finding supports previous research suggesting that OBE-oriented instructional design enhances clarity of learning expectations and supports competency-based learning in higher education contexts.

These findings are consistent with Hamidi et al.'s (2024) assertion that the Outcome-Based Education (OBE) approach enhances curriculum relevance and student competency achievement. Similarly, Hamidi et al. (2024) found that integrating OBE principles into technology-based learning materials increases student engagement and strengthens alignment with learning outcomes. Muzakir (2023) also emphasized that OBE-oriented materials improve students' readiness to meet global educational demands. However, this study provides an additional contribution by not only applying OBE principles to visual media development but also aligning the design with the internationalization goals of higher education programs. Unlike previous studies that focused primarily on content or media quality, this research integrates expert validation and empirical testing, ensuring both theoretical rigor and practical applicability. Consequently, the developed instructional

materials meet high academic quality standards while remaining relevant to global competency requirements in the higher education context (Kjellgren & Richter, 2021).

Despite such promising results, this research has several limitations. Field testing was limited to a fairly small number of students ( $n = 20$ ) at Surabaya area universities, and this will limit the generalizability of the findings. Moreover, studies were only conducted on the Visual Media Development course, and comprehensive studies covering a wider set of courses and universities are warranted to confirm and use the model (Kasneji et al., 2023; Saroyan & Frenay, 2023). The findings of this study have immense implications for the development of Sustainable Development Goal 4 (Quality Education). By encouraging innovative, affordable, and globally focused educational material, this study enables inclusive and equitable quality education and allows opportunities for lifelong learning for everyone. The materials developed promote inter-institutional collaboration, digital literacy, and the building of global awareness, the main drivers in realizing SDG 4 outcomes in the context of higher education (Dantic, 2025; Llanos-Ruiz et al., 2025). Furthermore, by fostering structured collaboration between institutions and supporting internationally oriented curriculum design, this study also contributes to Sustainable Development Goal 17 (Partnerships for the Goals). The OBE-based digital learning model provides a framework for strengthening cross-border academic cooperation and sustainable institutional partnerships in higher education.

## CONCLUSION

The study developed Outcome-Based Education (OBE)-based teaching materials for visual media development courses, which were proven to be of excellent quality. These findings indicate that the developed instructional materials effectively support both independent and collaborative learning while remaining relevant to the demands of program internationalization. However, this study has several limitations. The pilot test was conducted on a limited scale with a relatively small number of students, which did not fully represent the diversity of student characteristics across various institutions. Additionally, this study did not measure the long-term impact of the instructional materials on student learning outcomes. For future research, it is recommended that implementation tests be conducted on a larger scale, involving students from diverse backgrounds, and that the impact on global competencies and 21st-century skills be measured. Furthermore, the development of teaching materials can be directed to support the integration of adaptive learning technology, the use of learning analytics, or the application of artificial intelligence to strengthen personalized learning. Practical implementation of research results can also be realized through international collaboration, exchange of teaching materials, or integration of OBE-based curricula in various universities. This research can be useful for teachers, instructors, researchers, and policymakers to consider and implement this learning design on a broader scale.

## ACKNOWLEDGEMENT

The research was financially supported by the LPPM UNESA through the Faculty Policy Research Scheme for the year 2025, with contract number 555/UN38/HK/2025.

## AUTHOR CONTRIBUTIONS

**Utari Dewi:** Conceptualization, Methodology, Formal Analysis, Investigation, Resources, Data Curation, Writing - Original Draft; **Andi Kristanto:** Methodology, Formal Analysis, Resources, Data Curation, and Writing - Review & Editing; **Husni Mubarak:** Conceptualization, Methodology, Formal Analysis, Investigation, Resources, Data Curation, and Writing - Review & Editing; and **Kifle Kassaw Mulatu:** Conceptualization, Investigation, Resources, Data Curation, and Writing - Review & Editing. All authors have read and approved the final version of this manuscript.

## DECLARATION OF COMPETING INTEREST

The authors declare no known financial conflicts of interest or personal relationships that could have influenced the work reported in this manuscript.

## DECLARATION OF ETHICS

The authors declare that the research and writing of this manuscript adhere to ethical standards of research and publication, in accordance with scientific principles, and are free from plagiarism.

## DECLARATION OF ASSISTIVE TECHNOLOGIES IN THE WRITING PROCESS

The authors declare that Generative Artificial Intelligence and other assistive technologies were not excessively used in the research and writing process of this manuscript. Specifically, ChatGPT was utilized for brainstorming ideas, and Grammarly was employed for grammar and style correction, paraphrasing, and improving language clarity and coherence. All AI-generated content has been thoroughly reviewed and edited by the authors to ensure accuracy, completeness, and adherence to ethical and scientific standards. The authors take full responsibility for the final version of the manuscript.

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