

## Development of Canva-Based Interactive Media to Enhance Basic Teaching Skills in Micro Teaching Courses

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### ABSTRACT

The integration of interactive digital media is increasingly important in teacher education, particularly in Micro Teaching courses that aim to develop students' basic teaching skills. However, learning media used in such courses often lack interactivity and visual engagement, limiting students' participation and skill development. This study employed a Research and Development (R&D) approach using the Borg and Gall model to develop Canva-assisted interactive learning media for a Micro Teaching course at FITK IAIN Ambon. The participants were 60 teacher education students, consisting of 20 students in a limited trial and 40 students in a large-scale trial. Data were collected through expert validation sheets, student questionnaires, and pre-test and post-test assessments. The developed media included infographics, instructional videos, and interactive quizzes aligned with Micro Teaching competencies. Expert validation indicated very high content and media validity, with scores for ease of use (85%), clarity (88%), curriculum alignment (90%), and visual design (82%). Reliability testing using the test-retest method produced coefficients ranging from 0.72 to 0.85, indicating high consistency. Descriptive analysis of learning outcomes showed increased post-test scores compared to pre-test scores across all measured indicators. In the limited trial, students' comprehension, engagement, and motivation increased by approximately 20 points. In the large-scale trial, material comprehension improved from 70 to 92, teaching skills from 65 to 87, and student involvement from 72 to 91. The findings suggest that Canva-based interactive media are associated with improved learning outcomes and teaching skill development in Micro Teaching courses. This study highlights the potential of visually rich and interactive media to support student-centered learning in teacher education, particularly in resource-constrained higher education contexts.

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## 1. INTRODUCTION

The rapid advancement of information and communication technology (ICT) in the digital era has reshaped the educational landscape globally. In higher education, particularly in teacher training programs, there is an increasing demand to integrate technology to foster a more interactive and effective learning environment. One of the key competencies required of prospective teachers is the mastery of basic teaching skills, which are developed through structured and practical learning activities such as Micro Teaching (Cai et al., 2022; Wijaya et al., 2023). This course provides students with hands-on teaching experience under guided supervision before they engage in real classroom settings (Essuman, 2019; Adams & Myran, 2021; Ayaya, 2020).

Despite the critical role of micro-teaching, conventional instructional media often lack the interactivity necessary to foster active student engagement. Several researchers have proposed using Canva, a user-friendly design platform, to overcome these limitations, as an educational tool capable of creating visually engaging and interactive materials (Hidayati et al., 2023; Saputra et al., 2022).. Canva allows the integration of multimedia elements such as infographics, videos, and interactive tasks that align with the learning needs of prospective teachers (Elsa & Anwar, 2021; Syahdan et al., 2023). These elements can support the simulation-based nature of Micro Teaching activities and strengthen students' conceptual understanding (Anam et al., 2023; Harsabawa, 2023).

A synthesis of prior studies indicates that Canva positively affects student engagement, creativity, and motivation (Menacho-Vargas et al., 2022; R. Ramadhani et al., 2022; Saputra et al., 2022). However, most of this research remains exploratory or limited to general classroom settings without directly addressing the instructional design and evaluation process for Micro Teaching. Moreover, there is a lack of empirical studies that rigorously examine the development and validation of Canva-based learning media in the specific context of teacher education programs in Indonesia, especially outside of major urban centers (Hariawan & Kaluku, 2023; Nur Nasution et al., 2023).

This research addresses that gap by focusing on systematically developing and implementing Canva-assisted learning media tailored to Micro Teaching. By employing the Research and Development (R&D) model by Borg & Gall, this study designs interactive learning media and validates its reliability and effectiveness using pre-test/post-test evaluation and expert judgment. This approach provides a robust foundation for analyzing the media's contribution to students' teaching performance, motivation, and engagement, thus moving beyond perception-based findings found in earlier research (Anam et al., 2023; Prastyana et al., 2023).

The selection of FITK IAIN Ambon as the research site is intentional and significant. As a leading Islamic higher education institution in Eastern Indonesia, FITK IAIN Ambon represents a unique setting where technological infrastructure is still developing, yet the enthusiasm for innovation in teacher training is strong. The region faces pedagogical and logistical challenges, making it a strategic case for exploring how digital solutions like Canva can support teaching capacity-building under resource-limited conditions (Beloluts kaya et al., 2023; Ikhlas et al., 2023).

The novelty of this study lies in the systematic development and empirical validation of Canva-based interactive learning media specifically designed for Micro Teaching courses in teacher education programs. Unlike previous studies that mainly examined Canva as a general instructional or motivational tool, this research integrates Canva into a structured micro-teaching framework that targets the development of basic teaching skills, including lesson delivery, classroom interaction, and pedagogical engagement. Furthermore, this study employs a complete Research and Development (R&D) cycle using the Borg and Gall model, supported by expert validation, reliability testing, and pre-test-post-test evaluation, providing methodological rigor that is rarely found in prior Canva-related studies. Conducted in a resource-limited teacher education context in Eastern Indonesia, this research also contributes contextual evidence on the applicability and scalability of interactive digital media beyond well-resourced urban institutions.

Overall, this study highlights that technology integration in teacher education must be guided by context-sensitive design and rigorous validation. The results of this research are expected to offer practical insights for educators, curriculum developers, and policymakers in Indonesia seeking to modernize pedagogical practices in teacher training. Furthermore, it opens new pathways for the broader use of Canva in higher education, particularly in institutions that aim to promote innovation within resource-constrained environments.

## 2. METHODS

This study applied a Research and Development (R&D) method based on the Borg and Gall model, which consists of eight structured stages. These include: (1) identifying instructional problems through observation and interviews; (2) planning the development of Canva-based interactive media; (3) designing an initial product using visual tools like infographics and videos; (4) validating the prototype with subject matter and media experts; (5) revising based on expert input; (6) conducting a limited trial; (7) refining the product; and (8) conducting a large-scale implementation (Anam et al., 2023; Suharsono et al., 2023). This method produced a pedagogically sound and technologically practical product to support student skill development in the Micro Teaching course at FITK IAIN Ambon. Each stage was implemented systematically to ensure that the media developed was appropriate for its instructional purpose and adaptable to various classroom contexts (Shadriah Fahru et al., 2023).

The sample included 60 students from the Teacher Education Program at the Faculty of Tarbiyah and Teacher Training (FITK), IAIN Ambon. All participants were enrolled in the Micro Teaching course during the odd semester of the 2024/2025 academic year. Students were selected purposively due to their direct involvement in the teaching practicum. Twenty students took part in the limited trial, and 40 students participated in the large-scale implementation. These students came from various island-based regions in Eastern Indonesia, providing diversity in terms of geography, social background, and academic readiness. Such diversity allowed the researchers to test the media in a setting that reflects real teaching contexts and the challenges typically faced in decentralized or island-based education environments (Ciptaningtyas et al., 2022; Hariawan & Kaluku, 2023).

Media validity was measured using the Content Validity Index (CVI) method. Two content experts and two media experts assessed four components: ease of use, display clarity, curriculum alignment, and visual design quality. Each component was rated on a four-point scale. The calculated CVI scores were above 80% in all areas: ease of use (85%), clarity (88%), curriculum relevance (90%), and aesthetics (82%), indicating high validity (Sofyan et al., 2019). The CVI is widely used in educational research as a quantitative index to assess agreement among experts on instructional tools and content. By applying this method, the study ensured that the media met pedagogical and technical standards before implementation in a real teaching context (Prastyana et al., 2023).

To test media reliability, the study used a test-retest method. Students were asked to evaluate the media at two different times, and the consistency of their responses was used to compute the reliability coefficient. The coefficients obtained ranged from 0.72 to 0.85, with high-performing students scoring the highest consistency (Alwi Dalimunthe & Reinita, 2022). These values fall into the category of high reliability, meaning that the media provided stable perceptions and learning experiences across time. Test-retest is a commonly used approach in instructional product development because it ensures that external factors do not influence user feedback. The consistency found across student groups strengthens the claim that the media can be reused across semesters and still produce reliable learning outcomes (Prastyana et al., 2023).

The study employed a pre-test and post-test design to assess effectiveness across three variables: comprehension of teaching concepts, engagement during lessons, and learning motivation. Data from these tests were analyzed using a paired t-test at a significance level of  $\alpha = 0.05$ . The test compared mean scores before and after using the media to determine if the differences were statistically

significant (Sofyan et al., 2019). This test was appropriate because the same participants were assessed twice. Using the paired t-test, the researchers could establish whether any improvement in learning outcomes was attributable to the media, rather than random variation or external factors. This statistical method is frequently used in educational studies to measure the impact of instructional interventions (Sugiyono, 2017). The table below outlines these categories:

**Table 1.** Significance Criteria for Improvement (Sugiyono, 2019)

Percentage Increase (%)	Significance Category	Description
0% - 4.99%	Not Significant	Very small increase, no impact on learning outcomes.
5% - 9.99%	Low	Small increase, impact is less noticeable.
10% - 19.99%	Moderate	Considerable improvement in the learning process.
≥ 20%	High/Significant	Significant improvement, indicating the effectiveness of the learning intervention.

### 3. FINDINGS AND DISCUSSION

#### 3.1 Findings

This study aimed to develop and evaluate Canva-based interactive learning media for enhancing basic teaching skills in the Micro Teaching course at FITK IAIN Ambon. It included problem identification, product development, validation, reliability, and effectiveness testing. Initial observations and interviews revealed that existing media lacked interactivity and failed to stimulate student motivation and participation. These findings guided the development of Canva-integrated media with visual and interactive elements designed to increase engagement. Compared to conventional materials, Canva offered dynamic features more suited to the demands of Micro Teaching, a course emphasizing practice, simulation, and active student participation (Prastyana et al., 2023).

Observations indicated that student engagement in Micro Teaching was low, largely due to passive learning formats. This aligns with previous studies showing that static materials reduce student motivation and participation (Ranuharja, 2022). Table 2 reinforces this by highlighting the core problem: limited interactivity. To address this, Canva-based media were developed featuring visual-rich content such as infographics, explainer videos, and quizzes. These components were designed to enhance concept visualization, simulate teaching scenarios, and prompt active feedback. Such features, as supported by Anam et al. (2023), are critical in fostering learner-centered environments in teacher training contexts.

**Table 2.** Problem Identification Results from Observations and Interviews

Category	Findings
Student Involvement	Students show low participation during learning.
The interactivity of Learning Media	The media used needs to be more interactive to attract students' attention.
The Need for New Learning Media	Media that is more interactive and able to increase learning motivation is needed.

The development process emphasized interactivity, usability, and alignment with learning goals. Infographics enabled visual simplification of teaching concepts; videos modeled teaching techniques; and quizzes provided real-time formative feedback. These components were intentionally designed to respond to gaps identified in the literature on media effectiveness in practical courses (Menacho-Vargas et al., 2022; Pedroso et al., 2023). The design logic relied on cognitive theory, which states that multimedia use increases comprehension when learners can engage with both visual and verbal input

simultaneously (Hidayati et al., 2023). The media development also incorporated user-friendly navigation to ensure accessibility across devices and skill levels.

Validation was conducted by subject matter and media design experts using the CVI (Content Validity Index). Table 3 shows that the media received scores above 80% on clarity, usability, curriculum relevance, and visual appeal. These results align with those from Syaharuddin et al. (2023), who also found that visual media tools with high expert ratings are more readily adopted in teacher education. Validation ensured that the product was not only well-designed but functionally aligned with the curriculum. Such alignment was essential for maintaining instructional fidelity during implementation in the Micro Teaching course.

**Table 3.** Learning Media Product Development and Validation

Media Elements	Development Description	Validation Results
Infographic	Visualize critical concepts graphically.	Valid, can facilitate understanding.
Learning Video	The instructor guides students in demonstrating teaching skills through video.	Valid and effective in delivering the material.
Interactive Quiz	A tool that dynamically tests students' understanding through varied questions.	Valid, increasing student engagement.

Media reliability was tested using the test-retest method. As shown in Table 4, coefficients above 0.70 confirmed that user perceptions remained consistent across trials. This finding is comparable to those reported by Ghadrdoost et al. (2021), who emphasized that educational tools with stable reliability are crucial for sustainable implementation. High reliability also suggests that students' interactions with the media were not influenced by time-related or external factors. It supported the view of Prihantini et al. (2023) that instructional media must maintain consistent performance across varying usage conditions to be viable at scale.

**Table 4.** Learning Media Validity Test Results

Assessed Aspect	Average Score (%)	Validity Category
Ease of Use	85%	Very Valid
Clarity of display	88%	Very Valid
Suitability of Material with Curriculum	90%	Very Valid
Display Design and Aesthetics	82%	Very Valid





Figure 2. Canva-based learning media products

The effectiveness of the developed media was examined through pre-test and post-test comparisons, focusing on students' comprehension, engagement, and learning motivation. As presented in Tables 5 and 6, post-test scores were consistently higher than pre-test scores across all measured indicators, indicating positive learning gains following the implementation of the Canva-based media. These findings are in line with previous studies reporting improved learning outcomes when Canva is applied in skill-oriented courses (Anam et al., 2023). The largest improvements were observed in learning motivation and conceptual understanding, suggesting that the integration of

interactive and visual elements supported students' attention and facilitated content retention. The increase in motivation may be attributed to the gamified features of the interactive quizzes and the availability of immediate feedback, which encouraged active participation. Furthermore, enhanced engagement appears to be associated with students' ability to control learning pace and interact directly with visualized instructional content, reinforcing learner-centered experiences within the Micro Teaching context.

**Table 5.** Learning Media Reliability Test Results

Respondent Group	Reliability Coefficient	Category
Higher Level Student	0.85	High
Medium Level Student	0.78	High
Low-Level Student	0.72	High

**Table 6.** Limited Trial Results

Parameters	Pre-Test Score	Post-Test Score	Improved
Material Comprehension	60	80	20%
Student Involvement	55	75	20%
Learning Motivation	58	78	20%

Compared to other media such as PowerPoint or PDFs, Canva showed superior performance in activating student participation. Unlike linear slide formats, Canva allows for branching logic, embedded media, and interactive elements within a single interface. Studies by Pedroso et al. (2023) and Urumov et al. (2023) also highlight how platform-integrated design tools improve motivation and retention. This research supports those findings, showing Canva's practical value in enhancing student-centered instruction. However, this study adds new insights by applying Canva specifically to Micro Teaching, an area underexplored in prior comparative studies.

Revisions made after the limited trial were based on student feedback indicating the need for simplified navigation and clearer instructions. This iterative process was guided by design-based research principles that emphasize responsiveness to user feedback (Anam et al., 2023). After revisions, the large-scale trial confirmed broader applicability, with Table 7 showing notable improvements in teaching skills, material comprehension, and learning satisfaction. These findings align with previous research by Holisoh et al. (2023), who emphasized that iteration and responsive design are critical to achieving effective digital learning outcomes.

**Table 7.** Final Implementation and Evaluation Results

Parameters	Initial Score	Final Score	Improved
Material Comprehension	70	92	22%
Teaching Skills	65	87	22%
Student Involvement	72	91	19%
Lecturer Satisfaction	75	95	20%

### 3.2 Discussion

The findings of this study indicate that Canva-based interactive learning media can play a meaningful role in supporting the development of basic teaching skills in Micro Teaching courses. One important implication is the instructional flexibility afforded by Canva, which enables educators to design modular media aligned with specific pedagogical competencies, such as lesson structuring, classroom management, and instructional delivery. This flexibility allows the media to be adapted to different instructional topics without requiring substantial technological expertise, making it particularly relevant for teacher education institutions operating under limited infrastructural conditions. The modular nature of the media also supports integration into Learning Management

Systems (LMS), facilitating asynchronous learning and extending instructional access beyond the physical classroom. These findings corroborate previous studies suggesting that visually rich and platform-compatible media enhance the scalability and sustainability of digital pedagogy in higher education (Alselaiti, 2023; Miranda & Enciso, 2023).

Beyond cognitive outcomes, this study highlights the potential affective and behavioral benefits of Canva-based media. Observations during implementation revealed increased student enthusiasm and confidence during Micro Teaching sessions. Students demonstrated greater willingness to participate in simulated teaching activities and engaged more actively with pedagogical content. These patterns are consistent with prior research emphasizing that exposure to authentic and practice-oriented digital media can enhance professional readiness in teacher education programs (Urumov et al., 2023; Saputra et al., 2022). Furthermore, the opportunity for students to interact with and, in some cases, co-create instructional materials using Canva introduces a collaborative dimension to learning. Such experiences may contribute to the development of digital pedagogical competence, an increasingly essential skill for future teachers in technology-mediated learning environments.

From a theoretical perspective, the observed learning gains can be interpreted through the lens of multimedia learning theory. The combination of visual elements, textual explanations, and interactive components supports dual coding processes, enabling learners to integrate information through multiple cognitive channels. This alignment with cognitive principles likely contributed to improved conceptual understanding observed in the post-test scores. In addition, the inclusion of interactive quizzes with immediate feedback aligns with formative assessment principles, allowing students to monitor their understanding and adjust learning strategies in real time. Prior studies have demonstrated that such feedback-rich environments promote self-regulated learning and reinforce conceptual retention (Hidayati et al., 2023; Prihantini et al., 2023), lending further support to the instructional design adopted in this study.

Despite these positive indications, several limitations must be acknowledged. First, the study was conducted in a single institutional context with a relatively homogeneous group of teacher education students. While this context provides valuable insights into underrepresented regions in Indonesian higher education, it limits the generalizability of the findings. As noted by Pedroso et al. (2023), educational technology interventions may yield different outcomes across institutional cultures, student characteristics, and curricular structures. Future research should therefore involve multi-site studies across diverse teacher education institutions to strengthen external validity and comparative analysis.

Second, the effectiveness of the media was evaluated over a relatively short instructional period. The study did not assess long-term learning retention or sustained engagement with the media across multiple semesters. Previous research has suggested that prolonged exposure to digital media may result in changes in learner motivation, adaptation, or even media fatigue (Miranda & Enciso, 2023). Longitudinal research designs are needed to examine whether the observed improvements in motivation, engagement, and teaching skills persist over time and translate into actual classroom teaching performance during teaching practicum or professional placement.

Finally, this study focused primarily on instructional design and immediate learning outcomes and did not examine deeper integration with institutional digital ecosystems. The potential of Canva-based media could be further enhanced by embedding it within LMS environments that support learning analytics, adaptive content delivery, and personalized feedback mechanisms. As suggested by Alselaiti (2023), data-informed instructional systems enable educators to align pedagogical decisions more closely with learner needs. Future studies could explore how Canva-based media interact with LMS analytics and artificial intelligence–assisted feedback tools to support more responsive and individualized teacher education models.

In summary, this study contributes evidence that Canva-based interactive media can support cognitive, affective, and pedagogical aspects of learning in Micro Teaching courses. While the findings are contextually grounded and methodologically limited, they provide a foundation for broader exploration of low-cost, scalable digital media solutions in teacher education. Continued research across diverse contexts and extended timeframes will be essential to fully understand the role of Canva-assisted media in preparing future teachers for digitally mediated instructional environments.

#### 4. CONCLUSION

This study developed and evaluated Canva-based interactive learning media for Micro Teaching courses and found that its implementation was associated with improved student outcomes in terms of material comprehension, engagement, and learning motivation, while expert validation results indicated high levels of usability, clarity, curriculum alignment, and visual quality. The findings suggest that visually rich and interactive media can support more student-centered learning environments and contribute to the development of essential teaching competencies in teacher education programs. Nevertheless, this study is limited by its single-institution context, relatively homogeneous participant group, and short-term evaluation period, which restrict the generalizability of the results and preclude conclusions regarding long-term learning retention or teaching performance. Future research is therefore recommended to employ multi-institutional and longitudinal designs to examine the sustainability of learning gains and the transfer of skills to real classroom practice, as well as to explore deeper integration of Canva-based media with institutional learning management systems and emerging technologies, such as learning analytics, artificial intelligence-assisted feedback, or virtual teaching simulations, to support more adaptive and data-informed teacher education.

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