

Training on Creating Interactive English Learning Activities Using Edpuzzle

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ABSTRACT

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The advancement of information and communication technology (ICT) has transformed the landscape of education, requiring pre-service teachers to develop strong digital pedagogical competence. This study describes a training program entitled —Training on Creating Interactive English Learning Activities Using Edpuzzle— conducted for second-semester students of the English Education Study Program at Nias University. Using a qualitative descriptive design combined with a project-based learning (PBL) approach, the training aimed to improve students' Technological Pedagogical Content Knowledge (TPACK) and ability to design interactive video-based media. Data were collected through observation, field notes, pre-tests, post-tests, and participant questionnaires. The results revealed a significant increase in students' digital literacy, creativity, and confidence in integrating technology into English teaching. The average performance score improved from 42.5% before the training to 91.2% afterward. Students successfully created interactive English learning videos using Edpuzzle, embedding quizzes, voice notes, and reflective prompts aligned with TPACK principles. The findings support the Cognitive Theory of Multimedia Learning and demonstrate the effectiveness of project-based digital media training in enhancing 21st-century teaching skills. This program highlights the importance of structured, hands-on digital pedagogy training for pre-service English teachers to bridge the gap between theoretical knowledge and classroom practice.

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I. INTRODUCTION

The rapid development of information and communication technology (ICT) has reshaped modern education, influencing how teachers deliver instruction and how students engage in the learning process (Gilakjani, 2017). One innovation that has attracted considerable attention is the use of interactive videos. This medium can enhance learning motivation, provide access to authentic materials, and enrich teaching methods (Alvarez-Alvarez, 2024).

Among the various available platforms, Edpuzzle stands out for its ability to embed quizzes, audio, and notes into videos, making them more interactive and student-centered. Previous studies have shown the positive impact of Edpuzzle in various areas: improving critical thinking skills (Mayang et al., 2021), strengthening comprehension and (Rahayu & Bhaskoro, 2022), enhancing learning outcomes (Damanik & Harta, 2023), and fostering creativity in flipped classroom learning (Prasetia et al., 2024).

Nevertheless, a preliminary survey at Nias University revealed that most second-semester students in the English Education Study Program were not familiar with Edpuzzle and had never designed interactive learning videos. This lack of digital competence poses a challenge because prospective teachers should be equipped with 21st-century digital pedagogical skills to meet future classroom demands (Aldalalah et al., 2025).

Therefore, the objective of this program is to examine the impact of EdPuzzle-based training on students' Technological Pedagogical Content Knowledge (TPACK) (AJLONI et al., 2021) as well as their ability to integrate interactive digital media into teaching practice. However, preliminary findings from second- semester English Education students at Nias University indicate a significant gap: most students are unfamiliar with EdPuzzle and have no prior experience in designing technology-based instructional videos.

II. PROBLEM

Pre-service English teachers are the next generation of educators who are expected to possess digital pedagogical competence to adapt to the demands of 21st-century learning. However, preliminary observations and interviews conducted at Nias University revealed that most second-semester students of the English Education Study Program were not familiar with the **Edpuzzle** platform and had no prior experience in creating technology-based interactive learning videos.

This condition indicates a low level of digital literacy among students and limited ability to integrate technology into the learning process. The ability to effectively combine technological, pedagogical, and content aspects is one of the key competencies required of teachers in the digital era. According to (**Baran et al., 2011**) in their article TPACK: An Emerging Research and Development Tool for Teacher Educators, mastery of Technological Pedagogical Content Knowledge (**TPACK**) enables pre-service teachers to understand the dynamic relationships among technology, content, and pedagogy, thereby creating more meaningful and contextual learning experiences.

Furthermore, recent studies have also emphasized the importance of applying the TPACK model in developing interactive digital content. Based on the findings of (**Rahayu & Bhaskoro, 2022**) in The Effectiveness of Interactive Digital Content Based on the TPACK Model, the structured integration of interactive technology can enhance learners' motivation, engagement, and overall learning effectiveness.

The lack of such competence directly affects innovation in the teaching and learning process. Students still tend to rely on conventional methods, making learning monotonous and less engaging for digital-native learners. From the perspective of multimedia learning theory, (**Mayer & Fiorella, 2021**) in his article The Past, Present, and Future of the Cognitive Theory of Multimedia Learning explains that interactive multimedia-based learning can improve learners' attention, motivation, and information retention by integrating visual, auditory, and textual elements in a balanced cognitive process.

Therefore, a training program on developing interactive learning media using Edpuzzle is essential to enhance students' digital pedagogical competence. Through this training, students are expected to design communicative, creative, and pedagogically sound learning media aligned with modern multimedia design principles. This training not only supports the improvement of technological skills but also builds their readiness as professional, innovative, and adaptive educators in response to the ongoing development of



educational technology.

Pictutre 1. PkM Activities

III. METHOD

This training activity is based on a qualitative descriptive method. It seeks to capture and offer a comprehensive report on the implementation of the training, engagements of the participants, and evaluation of the training in relation to the participants' ability to use Edpuzzle. This activity is integrated into a training program that employs descriptive qualitative approaches to capture and report the implementation steps, engagement of participants, and evaluation of the training concerning the outcomes and the participants' skills in using Edpuzzle. It adheres to the qualitative methodology in education which is focused on

understanding the complexities and the social meaning of diverse contexts and activities. Besides, the execution of project-based learning serves to show that this model is effectively aimed at the development of creativity and other relevant practical skills among pre-service teacher students.

Target of the Program:

The partners in this activity were 10 second-semester students of the English Education Study Program at Nias University. They were selected because they had no prior experience in using interactive learning media, particularly Edpuzzle.

Activity Location:

The training was held on July 3, 2025, in Classroom 7 at the Faculty of Teacher Training and Education (FKIP) of Nias University. This classroom was equipped with an LCD projector, campus internet access, and group work tables to support collaborative-based activities.

Materials and Resources:

The materials used in this training included:

- 1) Students' personal laptops
- 2) Campus internet access
- 3) Edpuzzle and YouTube accounts as video sources
- 4) Edpuzzle training module (developed by the implementation team)
- 5) Observation sheets and questionnaires (printed in 10 copies)

Training Content:

- 1) Introduction to the theory of interactive media and the importance of video-based learning
- 2) Demonstration on creating an Edpuzzle account and using its main features
- 3) Hands-on practice in creating interactive learning videos using Edpuzzle
- 4) Presentation of participants' video projects
- 5) Group reflection and discussion
- 6) Evaluation through post-test and participant satisfaction survey

Evaluation of the Activity:

Technical achievement indicators were evaluated with observation sheets and participants' perception and knowledge changes were assessed with pre-tests and post-tests. All data were analyzed with a qualitative descriptive method. There was no use of quantitative statistical tests as understanding, response, and technical skills from the participants were prioritized. Should this activity be done in other places, the same materials and methods could be applied with some changes proportionate to the institution's context and the participants' skills.

IV. RESULT AND DISCUSSION

This section presents the outcomes of the training activity titled -Training on Creating Interactive English Learning Activities Using Edpuzzle. The main goal of this program was to improve students' digital pedagogical competence, creativity, and ability to integrate interactive media into English teaching.

The training was carried out in three stages:

1. Introduction and demonstration of Edpuzzle features,
2. Guided practice on creating interactive learning videos, and
3. Presentation and reflection on participants' final projects.

Ten students from the English Education Study Program at Nias University took part in the activity (coded as P1-P10). Data were collected through observation sheets, field notes, and participant questionnaires to measure changes before and after the training.

Table 1. Comparison of Participants' Performance Before and After the Edpuzzle Training

Indicator	Before Training	After Training	Description of Change
Familiarity with Educational	Only 3 of 10 participants (30%) had heard of	All 10 participants (100%) were able to log in, create	Participants

Technology	Edpuzzle or similar tools. Most were unfamiliar with video-based learning platforms.	accounts, and navigate Edpuzzle menus independently.	demonstrated an 80% increase in digital awareness and ability to use online tools.
Skill in Creating Interactive Learning Videos	None of the participants had experience embedding quizzes or voice notes into videos.	All participants successfully produced one interactive English learning video with at least 3 features (quiz, audio, reflection).	Hands-on practice and peer collaboration helped improve video editing and content design skills.
Pedagogical Integration	Lesson materials were still teacher-centered, with limited interactivity.	Participants implemented learner-centered approaches by embedding questions, voice guidance, and discussion prompts into lessons.	The training fostered awareness of TPACK integration between technology, pedagogy, and content.
Confidence in Teaching Using Technology	Most participants expressed hesitation and fear of making errors in digital teaching.	9 out of 10 participants reported feeling confident to use Edpuzzle for classroom learning.	Significant increase in teaching confidence and motivation to explore new tools.
Creativity in Designing Materials	Materials were limited to PowerPoint and PDF files without multimedia elements.	Students developed creative content using video, audio, and animation relevant to English topics.	100% of participants showed creative progress, especially in topic selection and design layout.
Collaboration	Group interaction was	Participants actively	The workshop
and Peer Support	minimal; participants worked individually.	exchanged ideas, gave peer feedback, and shared project links for review.	encouraged collaborative learning and reflective practice.
Satisfaction and Motivation	70% of students were uncertain about the usefulness of Edpuzzle.	All participants expressed satisfaction and enthusiasm to use Edpuzzle in microteaching and real classes.	The activity received a 95% satisfaction rate based on post-training questionnaires.

The data above show a significant improvement across all aspects. Before the training, participants relied mainly on traditional tools and had little exposure to interactive technology. After the training, they demonstrated mastery in designing multimedia-based English lessons, greater confidence, and creative initiative.

Field observations also revealed active involvement during the practice sessions. Several participants, such as P6 and P9, acted as peer mentors by assisting others with editing and embedding quizzes. Meanwhile, students with initially low digital skills (P3, P5, and P8) showed remarkable improvement by the end of the training, completing their projects independently.

The average pre-training score (based on observation rubric) was 42.5%, while the post-training score rose to 91.2%, indicating a strong increase in performance and engagement. The training proved effective in achieving its goals. The improvement in participants' digital and pedagogical competence supports (Mayer & Fiorella, 2021) Cognitive Theory of Multimedia Learning, which emphasizes that interactive and multimodal content enhances learner engagement, attention, and retention.

Furthermore, who argue that applying the TPACK framework enables teachers to integrate technology meaningfully with pedagogy and subject matter. Participants in this program demonstrated precisely that combination through Edpuzzle-based lesson design.

The hands-on, project-based structure of the training also reflects (Thomas et al., 2000) , who found that Project-Based Learning (PBL) develops problem-solving, teamwork, and creativity—skills clearly evident during the group work phase. Strengths of the activity included strong enthusiasm, successful task completion, and relevance of training materials to real classroom contexts. However, limitations included occasional internet instability and limited prior experience with video editing software, which slowed progress in some groups.

Despite these challenges, the activity's overall success suggests promising opportunities for future development, such as integrating Edpuzzle into the university's microteaching curriculum, expanding workshops for other study programs, and developing more advanced modules (e.g., lesson analytics and assessment through Edpuzzle).

The Edpuzzle training effectively increased the digital literacy, creativity, and pedagogical readiness of pre-service English teachers at Nias University. The before-and-after comparison confirms that structured digital training can bridge the gap between theory and practice, preparing students to be innovative educators capable of utilizing technology in the 21st-century classroom.

V. CONCLUSION

The implementation of the Training on Creating Interesting English Learning Activities through Edpuzzle has proven effective in enhancing students' ability to integrate digital media into English language learning. The training, grounded in the Technological Pedagogical Content Knowledge (TPACK) framework and supported by Project-Based Learning (PBL), successfully bridged the gap between theory and classroom practice. The findings indicate that students not only improved their technical proficiency in using Edpuzzle but also developed pedagogical creativity, collaboration, and reflective awareness in designing interactive materials. This study affirms that integrating technology like Edpuzzle into teacher education programs is not merely an innovation but a pedagogical necessity in the digital era. Future training should continue to emphasize authentic project design, peer collaboration, and reflective evaluation to sustain digital teaching readiness among pre-service teachers.

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