

## Pre-Service English Teachers' Perception on the Use of Applications in Designing English Instructional Media

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### Abstract

As educational practices increasingly rely on technology, teacher education programs are under pressure to integrate digital tools, especially for Indonesian pre-service EFL teachers. Despite this growing emphasis, comprehensive studies addressing how these prospective teachers interpret and evaluate the use of digital applications for instructional media design are still scarce. Accordingly, the present study was designed to explore these perceptions through an analysis of attitudes, instructional implementation, and fundamental belief systems. This research adopted a survey-based quantitative design involving 44 sixth-semester students who had completed micro-teaching as part of their academic requirements. Conducted in December 2024 at the English Education Study Program of UIN Sulthan Thaha Saifuddin Jambi, the study collected data through a Google Forms instrument with 23 items organized into three thematic dimensions. Analysis of the responses produced an overall mean of 4.1, suggesting very favorable perceptions toward educational applications, notably for their contribution to active student participation, interactive learning processes, and effective teacher–student interaction. The study suggests that continuous professional training is necessary to equip future educators with the competencies required for effective integration of digital tools. These findings support the inclusion of structured digital literacy components in teacher education curricula.

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### INTRODUCTION

Changes in instructional delivery during the COVID-19 pandemic, particularly the move toward online learning supported by modules, highlighted the urgent necessity for English teachers to have adequate and reliable digital skills (Corpin, 2024). As pre-service teachers, they must be able to create interesting learning media and use digital devices effectively (Limbong & Wadham, 2024). In addition to learning about teaching theory, pre-service teachers now also need to master more practical technological skills, such as using digital media in the teaching and learning process (Sulistio, 2023; Husain et al., 2023). Therefore, digital literacy skills are an important foundation to ensure the teaching process can be carried out effectively (Atar & Bağcı, 2023).

Several tools have gained popularity among pre-service teachers, such as PowerPoint, Canva, YouTube, and Quizlet (Cantika et al., 2023). Google Slides also offers multimedia integration that supports the development of interactive presentations (Ilmudinulloh, 2023). Platforms like Wordwall promote student engagement through gamified learning (Rahmawati & Wijayanti, 2022). Hot Potatoes, on the other hand, facilitates various exercise types and supports the creation of digital tests

(Dewi, 2017). Such applications play a crucial role by enabling pre-service teachers to design learning media that promotes interaction and captures students' interest more effectively than traditional materials. This approach not only enhances learners' motivation and improves instructional effectiveness, but also supports pre-service teachers in acquiring digital skills that are increasingly demanded in the modern educational landscape.

Although the use of technology brings clear advantages, many pre-service teachers still struggle with constraints like restricted availability of resources and minimal institutional support for technology use (Sudimantara, 2023). Positive experiences with educational technology tend to encourage continued usage and foster innovation (Ridha & Fithriani, 2023). Their perceptions of these applications, whether positive or negative, can influence how effectively they implement them in classrooms (Ertmer & Ottenbreit-Leftwich, 2010). Therefore, understanding these perceptions is critical to improve teacher training programs (Naidi et al., 2022). Instructional media play an important role because they help connect theory with real practice in the classroom (Suryani et al., 2022). In language learning, such media help to transform concepts that are initially abstract into something more concrete and easier to practice. For example, the use of audio-visual media can make an idea clearer and easier to understand (Baecher et al., 2023). The implementation of these tools promotes higher levels of critical thinking and learner participation. At the same time, learning materials become more contextual and engaging, helping students more easily recall and understand what they have studied (Akmal et al., 2024; Ediyani et al., 2020).

According to the Technology Acceptance Model (TAM), perceived usefulness and ease of use function as the primary factors influencing technology adoption (Davis, 1989). These dimensions guide users' attitudes and behaviors toward technological tools, thereby determining their willingness to implement them in practice (Teo, 2014). For pre-service teachers, TAM helps explain how they assess whether the learning technologies they encounter during training are relevant and truly useful to them. When they consider that the technology is useful and easy to use, they are more likely to accept and integrate it into their teaching methods. However, ease of use alone is not always sufficient to guarantee long-term adoption (Chen & Huang, 2023). Pre-service teachers may still require mentoring and institutional support to overcome psychological barriers (Zhang & Huang, 2022). Moreover, structural challenges such as overcrowded classrooms or a lack of adequate equipment can hinder effective implementation (Malki et al., 2024)

Existing literature has extensively examined technology use across different countries; however, studies that concentrate on pre-service English teachers in Indonesia and their distinctive educational environments are still insufficient (Marlina et al., 2023). Previous research has shown that many schools in Indonesia where teaching practice takes place do not have adequate ICT equipment. As a result, pre-service teachers have fewer opportunities to gain hands-on experience with ICT use (Salam et al., 2023). Even when digital platforms are available, not all teachers are confident in using them due to limited training (Sukmahidayanti, 2015). Thus, digital competence must be addressed not only through policy but also via targeted teacher education reforms (García-Martín et al., 2023). The study began with an initial survey administered to seventh-semester students in the English Education Study Program who had finished the microteaching course. From a total of 81 respondents, 44 individuals (55%) indicated that they utilized applications when creating English instructional materials. The most frequently used applications were Microsoft PowerPoint and Canva, followed by YouTube, Quizlet, Google Slides, Word Wall, and Hot Potatoes. They chose these applications because they believed they could increase student engagement and make the delivery of material more interesting.

The present study seeks to investigate the viewpoints of pre-service English teachers concerning the employment of applications for the creation of English instructional media. By narrowing the scope to students who have completed microteaching practice, this research responds to gaps in prior scholarship related to teacher readiness and the application of digital pedagogy (Josué

et al., 2023). Moreover, the outcomes offer applied insights that may support the refinement of instructional technology components in programs preparing future English teachers (Ivaniuk et al., 2022).

## **METHOD**

To analyze the perceptions of pre-service English teachers toward the use of applications in instructional media development, this research adopted a quantitative survey design. Surveys were considered appropriate because they allow systematic measurement of respondents' views and facilitate the identification of overall trends and perceptual intensity in a defined group (Creswell, 2014; Fraenkel et al., 2012). The study was carried out in December 2024 at the English Education Study Program, Sulthan Thaha Saifuddin State Islamic University Jambi.

The population consisted of seventh-semester students from the 2021 cohort who had completed the micro-teaching course. This group was chosen because they already had practical teaching experience and had previously created learning media. A total of 44 participants were selected using a convenience sampling technique. This technique was chosen because it was easy to implement and the respondents were available during the research. The inclusion criteria are: (1) participants who have completed the micro-teaching course, and (2) have used digital applications to design English instructional media.

The primary data were obtained by administering a structured questionnaire derived from the work of Baş et al. (2016). The first version of the adapted instrument comprised 26 items. After a pilot testing process to evaluate validity, three items were identified as invalid and subsequently eliminated from further analysis. As a result, the final questionnaire used in this study contained 23 valid items, divided into three sections: attitudes toward app use (9 questions), app use in classroom activities (9 questions), and beliefs about the usefulness of apps (5 questions). All statements in the questionnaire were measured using a five-point Likert scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The original scale developed by Baş et al. (2016) reported high levels of reliability and construct validity, evidenced by a Cronbach's Alpha of 0.92 and a Spearman-Brown coefficient of 0.85. In contrast, the adapted instrument in this study underwent structural modifications, including item reordering and content adjustment, to ensure contextual relevance. A pilot test was subsequently implemented to verify that the modified items were valid for application among pre-service English teachers.

Data were gathered through an online questionnaire distributed via Google Forms, and the survey link was disseminated to participants using WhatsApp for ease of access. Participants were informed in advance that their responses would be used exclusively for academic research, that confidentiality would be maintained, and that participation was entirely voluntary with the option to withdraw at any time. The data collection period occurred in December 2024.

The data analysis relied on descriptive statistical techniques conducted using Microsoft Excel and SPSS 26. The procedures involved calculating frequency distributions, mean values, medians, modes, and standard deviations. Each item's average score was then classified according to categories adapted from Naidi et al. (2022), and the results were further interpreted by linking them to existing scholarly research.

## **RESULT**

This section presents the results of research on how pre-service English teachers perceive the use of applications to design instructional media. The findings are divided into three sections according to the structure of the questionnaire: (1) the attitudes of pre-service English teachers, (2) the use of applications in the classroom, and (3) the beliefs of the pre-service English teachers.

### The Attitude of Pre-service English Teachers

*Table 1 Pre-services' Attitude*

Statements	N	Mean
S1	44	4.23
S2	44	4.09
S3	44	4.11
S4	44	3.98
S5	44	4.02
S6	44	4.30
S7	44	4.16
S8	44	3.98
S9	44	3.91
Valid N (listwise)	44	

The results showed that the average scores for all nine items were high, ranging from 3.91 to 4.30. This means that respondents consistently provided positive answers. The overall average reached 4.5, showing that the attitudes held by pre-service teachers were categorized as very positive according to the established evaluative framework. Most respondents had a positive view of the use of applications to design English instructional media. They felt comfortable and confident using these applications in the teaching process. The consistently high scores also indicated that participants see these applications as a supportive, useful, and easy-to-use tool when designing learning media.

### The Use of Applications in the Classroom

*Table 2 The Use of Applications in the Classroom*

Statements	N	Mean
S10	44	3.82
S11	44	3.77
S12	44	4.02
S13	44	3.68
S14	44	4.00
S15	44	3.93
S16	44	4.09
S17	44	4.20
S18	44	4.11
Valid N (listwise)	44	

Before discussing each item individually, findings summarized in Table 2 demonstrate that pre-service teachers commonly employ diverse applications when preparing instructional media for classroom use. The results produced an overall mean of 3.9, with the lowest and highest scores falling between 3.68 and 4.20. These numbers indicate that almost all types of applications are used consistently. Several items had the highest scores, such as S17 (4.20), S18 (4.11), and S16 (4.09). This means that application features that help to deliver material more efficiently and in a structured manner are the most widely used. On the other hand, S13 (3.68) had the lowest score, but it still falls into the high category. The relatively narrow range of scores indicates that the use of the application is relatively even, and no item is particularly low. These findings demonstrate that pre-service teachers not only use applications as a supplement but also as a routine part of the learning process. The

applications help them to organize the materials, prepare media, and conduct classroom activities more practically. This pattern also reflects that technology has become part of their teaching strategy, which they consider effective and relevant to the classroom needs.

### Beliefs of Pre-service English Teachers

*Table 3 Beliefs of Pre-service English Teachers*

Statements	N	Mean
S19	44	4.07
S20	44	4.11
S21	44	4.23
S22	44	3.91
S23	44	3.59
Valid N (listwise)	44	

The table shows pre-service teachers' beliefs about using applications to create English learning media based on five assessment items. Overall, the results were quite positive. The average score was 3.9, which meant that most participants considered the use of applications as beneficial in designing learning media. Looking in more detail, the scores for each item were also fairly consistent. The results imply that most pre-service teachers possess supportive beliefs toward the integration of applications when constructing learning materials. There was no sign of negative tendencies, and most responses fell into the positive category, reinforcing the overall results.

Broadly speaking, the conclusions of this research are represented by the average scores obtained from the three indicators, which are illustrated in the computation below.

$$\begin{aligned}
 \text{Final result} &= \frac{\text{Mean Indicator 1} + \text{Mean Indicator 2} + \text{Mean Indicator 3}}{\text{Total Indicator}} \\
 &= \frac{4,5+3,9+3,9}{3} \\
 &= \frac{12,3}{3} \\
 &= 4,1 \text{ (Very Positive Perception)}
 \end{aligned}$$

The study results demonstrate that pre-service teachers perceived the application-based design of English instructional media very positively, supported by an overall average score of 4,1. Their responses demonstrate confidence and comfort in using digital devices, highlighting their readiness to integrate technology into future teaching practices.

## DISCUSSION

The discussion section will interpret the research findings by connecting them to relevant theories and studies. The discussion in this section is structured around three key areas, focusing on pre-service teachers' attitudes toward employing applications for instructional media design, how they use these applications in the classroom, and their beliefs about using applications in designing learning.

### Attitude of Pre-service English Teachers

Research outcomes reveal that pre-service English teachers maintain positive attitudes regarding the use of applications during instructional activities. This positivity plays a key role in

forming their intentions, strengthening confidence, and increasing readiness to apply technology in future classrooms. The results support the Technology Acceptance Model (TAM) (Davis, 1989), which highlights attitude as a key predictor of technology usage intention. Attitudes are shaped by perceptions of usefulness and usability, and the pre-service teachers in this study considered the applications effective for teaching purposes and easy to manage, demonstrating alignment with TAM concepts.

Furthermore, as explained by Kim et al. (2009), a strong positive attitude can further reinforce the perception that technology is useful and easy to use, thereby creating a self-supporting cycle of technology acceptance. This attitude can also be influenced by institutional factors, such as support from the campus, digital literacy training, and collaboration with fellow teachers, as found in previous studies (Naidi et al., 2022; Inayati & Emaliana, 2017). Thus, a positive attitude does not arise spontaneously, but is shaped by a broader learning environment, which is an important consideration for teacher education programs.

### **The Use of Applications in the Classroom**

Additionally, the findings show that teachers generally perceive the use of different applications in classroom environments in a positive manner. They reported that digital tools such as PowerPoint, Canva, and Quizlet help them in planning lessons, creating presentations, and supporting learning activities. These applications make the teaching process more interactive and visually engaging. In the context of the Technology Acceptance Model (TAM), this suggests that teachers find these applications useful because they can increase student engagement and participation, and are easy to use because they can be easily incorporated into their teaching activities. These results align with the findings of Mosquera-Gende (2023), Sudimantara (2023), and Karina & Kastuhandani (2024), who also mentioned that learning technology can improve motivation, classroom interaction, and learning efficiency.

Such positive perceptions have meaningful consequences for teacher education. As modern learning increasingly depends on digital competence, training programs should guarantee continuous and relevant technological exposure for pre-service teachers. While obstacles like restricted resources and insufficient skills may persist, the overall positive attitudes indicate a strong readiness to integrate technology into future professional practice.

### **Beliefs of Pre-service English Teachers**

The results also confirm that pre-service teachers possess favorable beliefs toward applying digital applications in the creation of instructional media. These beliefs are related to their confidence as well as how they construct their identity as teachers. They see applications not only as a way to save time, but also to increase student motivation, foster creativity, and help improve learning outcomes. or simplify work, but also as tools that can. These beliefs relate to their self-confidence and how they construct their identity as teachers. Applications are viewed by pre-service teachers as more than time-saving solutions; they are considered instruments that stimulate learner motivation, promote creativity, and contribute to better learning results.

From the perspective of the Technology Acceptance Model (TAM), this belief reflects two things: perceived usefulness—namely, the assumption that the application truly helps the teaching and learning process—and perceived ease of use, which is the belief that they can easily integrate the application into their teaching. Previous research also supports this. Inayati & Emaliana (2017) found that positive experiences with technology can strengthen teachers' beliefs about its benefits. Meanwhile, Ridha & Fitriani (2023) showed that strong beliefs encourage teachers to continue using technology long-term. Smeins and colleagues (2022) also added that digital tools can help shape teachers' professional identity and prepare them to face various classroom situations.

Overall, these findings suggest that pre-service teachers view application not only as

supplementary tools, but as an essential part of effective teaching practice. This insight underscores the need for curriculum developers and educational institutions to provide structured technology training so that teacher education programs truly support the development of their technical and pedagogical skills. Previous research also supports this. Inayati & Emaliana (2017) found that positive experiences with technology can strengthen teachers' beliefs about its benefits. Meanwhile, Ridha & Fitriani (2023) showed that strong beliefs encourage teachers to continue using technology in the long term. Smeins et al. (2022) also added that digital tools can help shape teachers' professional identity and prepare them for various classroom situations. This insight underscores the need for curriculum developers and educational institutions provide structured technology training so that teacher education programs genuinely support the development of their technical and pedagogical skills.

Taken together, the results indicate that pre-service English teachers exhibit a consistently affirmative orientation toward employing applications in the production of learning media, supported by elevated scores in affective responses, pedagogical implementation, and belief systems. This orientation mirrors the fundamental principles of the Technology Acceptance Model, as the applications are judged to be advantageous in fostering higher engagement, stronger motivation, and improved teaching outcomes, and are also considered manageable to operate because users feel capable and at ease when integrating diverse digital tools into instruction. The evidence points to the necessity for teacher education institutions to expand their focus from basic digital competence toward a more deliberate inclusion of technology within curricular frameworks. By doing so, prospective teachers can develop authentic, practice-oriented experiences that enable them to use technological tools effectively in educational contexts. At the institutional level, ongoing training, access to resources, and supportive policies are crucial for maintaining these positive perceptions and applying them consistently in the classroom. For future research, it will be important to understand how these perceptions develop as pre-service teachers encounter real teaching experiences, and how consistent institutional support can ensure that technology continues to be used effectively in the long term.

## **CONCLUSION**

This investigation sought to examine how future English teachers evaluate the role of applications in creating instructional media. The outcomes indicated a broadly positive perception among participants, with strong emphasis on usefulness and usability as central elements of the Technology Acceptance Model (TAM). The teachers reported that these applications enabled more productive work processes, stimulated creative approaches, and resulted in improved instructional products, and they further noted that the tools were straightforward to operate and easy to access. Moreover, the existence of these positive views reflects that prospective teachers are inclined and sufficiently confident to embed technology within the process of developing learning media. The results therefore, validate that the Technology Acceptance Model remains an appropriate theoretical lens for interpreting how technological adoption emerges in the context of teacher preparation. When a digital tool is perceived as useful and easy to operate, it tends to foster a positive attitude and the intention to use it in the classroom.

Even so, the research revealed several potential barriers that could impede future technology use, including insufficient device access, disparities in teachers' digital skill levels, and unequal distribution of training and development opportunities. If these barriers are not addressed, positive perception alone will not be enough to ensure that technology is used consistently and effectively in the classroom. Therefore, teacher education programs need to provide more targeted support and structured and continuous training programs that aim to strengthen both the technical skills and confidence of pre-service teachers in effectively using learning applications.

Overall, this study provides an empirical overview of how pre-service teachers perceive applications, particularly those used in the field of education, through the lens of the TAM, particularly

in terms of instructional media—an area that is still under-researched. Future studies could expand on these findings by using qualitative approaches to understand the reasons behind their perceptions, conducting cross-institutional studies to observe differences in context, or investigating how long-term applications affect actual teaching practices. Implementing these measures would allow for a broader and more nuanced understanding of patterns of technology acceptance and use as education continues to evolve and adapt to digital transformation.

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