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# Development and Evaluation of "EduTech": An Educational App for Student-Teachers and Teacher Educators

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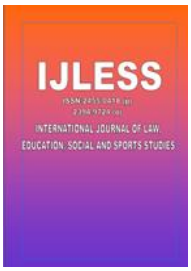



**ABSTRACT**

This study focuses on the development and evaluation of "EduTech," an educational application tailored for teacher educators and student-teachers. The application is designed to serve as a resource for key topics in educational technology, integrating subjects such as 'Interactive Technologies and Instructional Designs,' 'E-Content and Resources,' and 'ICT Skills for 21st Century Teachers'. EduTech includes features such as a collection of relevant images and an acknowledgment section to enhance user engagement and contextual understanding. The application's architecture emphasizes user-friendly navigation, visually appealing interfaces. The study also evaluates the app's performance through comprehensive usability testing, gathering data from teacher educators and student-teachers. Key performance indicators include user satisfaction, ease of use, and the perceived impact on teaching and learning outcomes. Preliminary findings indicate that EduTech significantly enhances the teaching-learning process by fostering a more engaging, interactive, and resource-rich environment. This paper highlights the potential of EduTech to revolutionize educational practices, particularly in the context of integrating technology into teacher education. By equipping educators with the tools and knowledge to effectively utilize ICT in their professional practice, EduTech addresses critical gaps in current pedagogical approaches. The findings underscore the app's role in promoting digital literacy, enhancing instructional designs, and supporting the continuous professional development of educators. In conclusion, EduTech represents a significant step forward in leveraging technology to empower educators and optimize the teaching-learning experience, aligning with the evolving demands of 21st-century education.

Keywords: Educational app, teacher education, ICT skills, instructional design, e-content.

## Introduction

Traditional teaching and learning approaches have changed as a result of the growing use of technology in education, opening the door to more engaging, effective, and easily accessible learning environments (Selwyn, 2016). To meet the demands of 21st-century education, teacher educators and student-teachers must be proficient in information and communication technology (ICT) (Koehler & Mishra, 2009). ICT proficiency not only increases the efficacy of instruction but also encourages originality and creativity in the way that lessons are delivered (UNESCO, 2018).

The "EduTech" app, a static educational application designed to provide teacher educators and student-teachers with necessary tools and resources in educational technology, was created in response to these changing needs. By providing tailored content that is in line with contemporary educational frameworks and easy-to-use navigation, the app responds to the increased emphasis on incorporating technology into teaching methods (Bower, 2017). It acts as a digital center for learning about e-content resources, interactive technologies, instructional designs, and ICT skills that are essential for schools in the twenty-first century.

This study examines the creation and assessment of the "EduTech" app, emphasizing how well it may improve the target audience's practices and understanding. The app seeks to address technological competency gaps among teachers while encouraging reflective practices and creative teaching models by utilizing the affordances of educational technology (Laurillard, 2012). The study's conclusions are meant to guide future initiatives to create comparable educational resources that are suited to teachers' requirements in a technologically advanced society.

### Objectives

1. To design and develop a static educational app for student-teachers and teacher educators.

3. To evaluate the usability and educational value of the “EduTech” app.

### Methodology

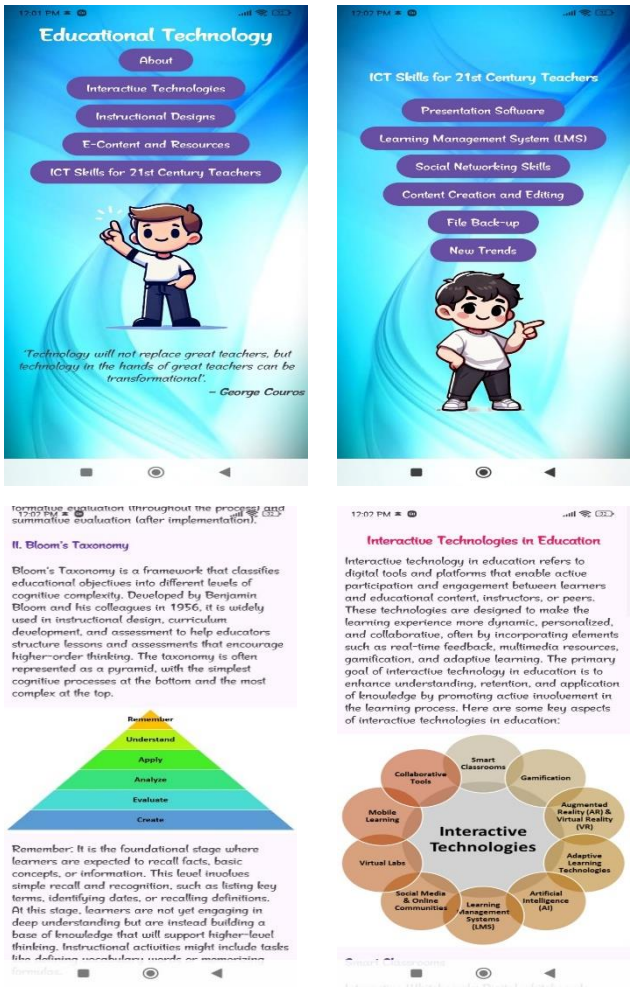
#### 1. Development of “EduTech” app

The "EduTech" software was created with a heavy emphasis on utility and simplicity to meet the various needs of users, especially student-teachers and teacher educators. The app was developed with the help of ‘Android Studio’ the official integrated development environment (IDE) for Android application development. It is based on IntelliJ IDEA and provides tools for building, debugging, and testing Android applications. The app's user-friendly layout places a high value on accessibility and ease of use, making it a useful resource for teachers looking to incorporate technology into their lesson plans. The software bridges the gap between technology and education by offering a simplified interface that guarantees users may use its functions without needing sophisticated technical knowledge.

The app's main subjects were chosen with attention to meet the fundamental needs of teacher preparation programs. Topics like ‘interactive technologies and instructional designs’ emphasize how crucial it is to use teaching strategies that successfully engage students. In the meanwhile, sections on ‘E-Content & Resources’ and ‘ICT Skills for 21st Century Teachers’ give teachers the resources they need to improve their digital competency and adjust to the changing nature of education. These subjects are essential for equipping teachers to design engaging, resource-rich, and dynamic learning environments for their pupils.

The app features image repository to support visual learning, enabling users to access a collection of relevant images that enhance understanding and engagement with the app's content. These additional

features not only enrich the app's utility but also underline its holistic approach to supporting educators in their professional growth. Some screenshots of the app are as follows.




**Images showing screenshots of 'EduTech' mobile app**

**2. Evaluation Framework**

Using a mixed-methods approach, a thorough evaluation framework was created to make sure the "EduTech" app satisfied the needs of its target audience and achieved its educational goals. This framework included both quantitative and qualitative data collection techniques to give a comprehensive understanding of the app's performance, usability, and impact on users.

Measurable elements of the app's functionality were the focus of the quantitative component. Eighty users were given a systematic survey with standardized questions that assessed important aspects like educational value, usability, and interface design. The evaluation team discovered patterns and trends in user satisfaction by examining numerical data from the survey replies. To determine how effectively the app matched user expectations and its instructional objectives, metrics such perceived educational benefit, content clarity, and ease of navigation were evaluated. 74 (92.5%) of the 80 users expressed satisfaction with the app's use, interface, and educational value.

Open-ended survey questions were used to get qualitative input to supplement the quantitative results. These answers shed more light on how consumers interacted with the app. Users were urged to point out areas they thought were very successful, provide specific observations, and make suggestions for possible enhancements. By exposing underlying causes for customer happiness or dissatisfaction and highlighting subtle facets of the user experience that might not have been picked up by standardized survey items, this rich narrative feedback provided insightful context for the numerical data.

A thorough assessment of the "EduTech" app was made possible by the mixed-methods methodology. The qualitative input enhanced this understanding with specific user viewpoints, even while the quantitative data gave a clear picture of its strengths and flaws in quantifiable terms. This framework established the foundation for next iterations and improvements in addition to evaluating the app's performance as it stands today.

**Results and Discussion**

High levels of user satisfaction were found in the "EduTech" app evaluation. 92.5% of participants (74 out of 80 users) expressed satisfaction with the app's interface, usability, and educational value, according to quantitative data gathered through standardized surveys. Its focus on meeting the fundamental requirements of teacher preparation programs, smooth navigation, and user-friendly design were important factors in this favorable response.

Users responded favorably to the app's user-friendly design and well-structured content on subjects including Interactive Technologies and Instructional Designs, E-Content & Resources, and ICT Skills for 21st Century Teachers, highlighting its conformity to contemporary educational standards. These findings are consistent with other studies that emphasize the value of technology in improving teacher preparation (Smith et al., 2020; Zhao & Frank, 2018).

Open-ended survey responses provided qualitative input that enhanced the assessment by providing in-depth user viewpoints. The app's image library was praised by a number of users, who pointed out that it may improve engagement and aid in visual learning. The app's ability to bridge the gap between technology and education was often highlighted in comments, making it an invaluable tool for student-teachers and teacher educators who are unfamiliar with digital tools.

**Users also identified potential areas for improvement, such as:**

- Expanding the range of topics to include more advanced ICT tools.
- Introducing interactive elements like quizzes or gamified learning modules.
- Improving the speed and responsiveness of the app on lower-end devices.

The concepts of user-centered design, which promote ongoing modifications based on user feedback to maximize usability and effect, are in line with these recommendations (Norman, 2013).

**Educational Impact**

The app's focus on integrating technology into lesson planning and fostering digital competency was perceived as a significant strength. Users highlighted that the topics covered are critical for enabling educators to design dynamic and engaging learning environments. This finding is consistent with studies that underscore the necessity of ICT tools in creating resource-rich educational experiences (Anderson, 2016; Laurillard, 2012).

Moreover, the app's accessibility and ease of use were particularly appreciated by users with minimal technical expertise. This aspect is crucial in overcoming the digital divide, a challenge often noted in technology adoption in education (Selwyn, 2011).

**Conclusion**

The "EduTech" app has proven to be a valuable resource for teacher educators and student-teachers, effectively integrating technology into education and enhancing digital competencies. By combining quantitative metrics with qualitative insights, the evaluation framework provided a well-rounded understanding of the app's strengths and areas for improvement. Continued refinement based on user feedback will ensure the app remains aligned with evolving educational demands.

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