Towards Digital Literacy: Exploring Teacher Candidates' Challenges in Digital Content Creation

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Abstract. This study examines the challenges encountered by English Education Program students in creating digital educational content for their teaching. As teacher candidates to design more effective, individualized, and engaging learning experiences and to prepare their students for a digital future, digital literacy is crucially needed. Students must be able to provide captivating and practical content, as the demand for digital learning resources is expected to grow significantly. However, many students need help with this process. This study aims to offer detailed insights into these issues, to direct the development of more effective training materials and programs for education technology. This qualitative study was carried out at the English Education Department at UNIMED. Forty students all completed questionnaires addressing the difficulties they encounter when producing digital educational content concerning the difficulties they encounter when developing digital instructional content. According to the research, students face challenges in editing, time limitations, location limitations, and equipment limitations. The findings contribute to the wider discussion on enhancing digital literacy and teacher training.

Keywords: Digital literacy, digital educational content, education technology

1 Introduction

Teaching in the digital era has transformed significantly due to integrating technology into educational practices. Educators are now tasked with navigating a landscape rich with digital tools and resources that can enhance learning experiences but also pose challenges regarding accessibility and engagement. Digital technology facilitates personalized learning, allowing educators to tailor educational content to individual students' needs and preferences, and supports interactive and

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collaborative learning environments through platforms like learning management systems and educational apps [1][2]. However, this shift also requires teachers to continuously update their skills and adapt to rapidly changing technologies, which can be demanding [3]. Additionally, the digital divide remains a significant issue, as disparities in access to technology can affect students' learning opportunities [4]. Effective teaching in the digital age demands technological proficiency and an understanding how to integrate these tools meaningfully into pedagogical strategies to enhance educational outcomes.

Teaching in the digital era has become intrinsically linked to digital content, transforming educational practices and student engagement. Deploying digital resources, such as interactive videos, online quizzes, and virtual simulations, enriches the learning experience by providing dynamic and multimedia-rich environments that cater to various learning styles and needs [5]. This integration enables educators to create more engaging and personalized learning experiences, facilitating immediate feedback and collaborative opportunities [6]. However, effectively incorporating digital content into teaching requires educators to develop technological proficiency and a strategic approach to integrating these tools into their pedagogical practices to ensure alignment with learning objectives [7].Additionally, challenges such as ensuring equitable access to technology and fostering digital literacy among students remain critical issues that educators must address to maximize the potential of digital content in education [8]. Thus, while digital content offers transformative opportunities for enhancing education, its successful implementation demands careful planning and ongoing adaptation by educators.

In light of these advancements and challenges, universities must adapt their curricula to better prepare teacher candidates for the demands of digital content creation. The evolving educational landscape underscores the need for specialized training in developing digital content, integrating technology into teaching, and addressing related challenges. Institutions should consider incorporating comprehensive courses and workshops focused on educational content development, digital literacy, and the strategic use of technology in pedagogy. Recent research highlights the importance of equipping future educators with these skills to effectively navigate and leverage digital tools in their teaching practices [9][10]. By doing so, universities can ensure that teacher candidates are well-prepared to create engaging, high-quality educational materials and meet the diverse needs of their students in a digital age.

The English Education study program provides a course called Digital Education and Content Creator to address the issues in digital learning. This course aims to prepare and educate students on the various phases of producing digital content, from planning and execution to evaluation and basic idea knowledge. Students are required to comprehend the objective of content creation and the suitable strategies for generating digital material in the context of education and learning. However, students need help in producing high-quality work during its implementation. This study aims to understand students' challenges in creating digital educational content.

2 Method

The research employed a qualitative methodology to understand the research problem fully. Qualitative studies are research approaches that aim to explore and understand the complexities of human experiences and social phenomena through detailed, context-rich data [11]. This study was carried out at the English Education department at UNIMED with forty students as the participants. Open questionnaires were used to gather in-depth, open-ended responses that provided insights into participants' experiences and perspectives related to their difficulties in developing content for teaching.

3 Result and Discussion

Table 1. Students' Difficulties in Developing Educational Content

Students' Problems	Number of Students Affected	Percentage
Editing Issues	28	70
Time Limitations	34	85
Location Limitations	22	55
Equipment Limitations	30	75
Achieving Learning Objectives	26	65

From the data gathered with questionnaire, it can be concluded that students experiences several problemss in creating eduational content. The problems will be presented below:

a. Editing Challenges:

Editing is a substantial challenge for students in creating educational material, as indicated by the 70% of students who reported encountering difficulties during this phase. Reviewing information for clarity, coherence, and accuracy is essential for refining and improving it. This task may be challenging for individuals unfamiliar with editing tools or processes. Many students sometimes encounter difficulties when critically evaluating their work, which can result in the unintentional omission of errors or inconsistencies. The difficulty is further intensified by the requirement for numerous revisions and feedback iterations, which can be laborious and challenging to coordinate alongside other academic obligations. This significant percentage indicates a prevalent and urgent problem that students face while trying to create educational materials of superior quality.

Students need help with editing while creating educational material. Refining and polishing text necessitates a comprehensive evaluation to ensure clarity, coherence, and accuracy, which can be intimidating for individuals without familiarity with editing tools or processes. Students may need help objectively evaluating their work, which can result in the inadvertent omission of mistakes or discrepancies. In addition, efficient editing requires numerous iterations and feedback loops, which

can be laborious and difficult to coordinate, particularly when students juggle other academic obligations.

b. Time Limitations:

The majority of students (85%) who said that time constraints were a key worry indicate that time constraints are a common problem for students working on educational content. Students frequently need more time to develop and improve their content due to the demands of coursework, extracurricular activities, and other commitments. This constraint might lead to hasty labor, depriving students of the chance to conduct comprehensive research, strategize efficiently, or refine their content through iteration.

Consequently, the quality and depth of the educational materials may need to be improved, affecting their effectiveness in meeting learning objectives. The high percentage of students reporting this issue underscores the significant impact of time constraints on their ability to produce high-quality educational content.

It is very important to address these time limits to enhance the quality of educational content generated by pupils. Institutions and educators should contemplate offering supplementary assistance, such as adjustable deadlines, allocated time for curriculum enhancement, or resources to facilitate efficient time management. By employing measures to mitigate time constraints, students would have the option to allocate more attention to conducting research, devising plans, and improving their materials. Thus, their educational material may be improved overall and better matched with learning goals, which could result in more significant and successful educational outcomes.

c. Location Limitations:

The challenges related to location can substantially influence students' capacity to create educational material, as demonstrated by the 55% of students who encountered difficulties in their working environment. One's access to crucial resources or environments, such as computer labs or specialist libraries, may be limited based on location, impacting the availability of vital tools and materials. Students studying remotely or in environments with limited resources may encounter difficulties such as insufficient workspaces or restricted access to academic materials, which can hinder their capacity to create content of superior quality. In addition, a less favorable working environment can result in distractions and interruptions, further impeding content development. The data underscores the necessity for enhanced availability of resources and more accommodating work environments to augment students' capacity to generate efficacious educational materials.

In order to overcome these restrictions on location, educational institutions should contemplate providing greater flexibility in accessing resources. This could involve supplying virtual libraries and online tools to assist students who need physical access to the required materials. Implementing strategies to facilitate remote work environments or enhancing the infrastructure of current study spaces could effectively reduce the negative effects of location-related difficulties. Educational

institutions can effectively prepare students to overcome these obstacles through improved resource access and a more conducive working environment. Implementing this strategy can enhance the efficacy of content development and subsequently enhance the caliber of educational materials created, guaranteeing that students can accomplish their learning objectives more expediently.

d. Equipment Limitations:

The data showed that 75% of students wrote that they had equipment issues indicates how important barrier equipment restrictions are for students creating educational content. Access to current technology, such as dependable computers, software, and fast internet, is crucial for producing digital content of a professional standard. Students using obsolete or insufficient technology may need help with sluggish processing speeds, low-quality output, and restricted functionality. These technical weaknesses can substantially impact the overall quality and efficacy of the educational content, hindering students' ability to create materials that adhere to academic and pedagogical standards. The significant proportion of students experiencing these difficulties with equipment highlights the necessity for enhanced availability of technology and resources to facilitate the production of top-notch materials.

In order to overcome the restrictions imposed by equipment limits, educational institutions and support programs should contemplate providing students with access to state-of-the-art technology and comprehensive technical assistance. These measures could involve supplying temporary devices, covering software expenses, or delivering on-site technical assistance for problem-solving and care. Institutions can alleviate the technological obstacles that affect content quality by providing students with dependable and up-to-date technology. Implementing such approaches will improve students' capacity to create exceptional educational resources and bolster their general academic achievement and preparedness for future professional requirements. Enhancing the availability of essential technologies is crucial in creating equal opportunities and empowering students to accomplish their educational goals with greater efficiency.

e. Achieving Learning Objectives:

Students often encounter challenges in aligning their educational content with specific learning objectives, as highlighted by the 65% of students who reported difficulties in this area. Developing content that effectively meets educational goals requires clearly understanding the objectives and the target audience's needs. Students may need help translating theoretical learning objectives into practical, engaging content that fosters meaningful learning outcomes. This challenge is further compounded by the need to integrate pedagogical principles with content creation, ensuring that the materials convey information and support skill development and knowledge application. The data reflects that the educational materials produced may only achieve their intended impact with a strong alignment between content and learning objectives, underscoring the importance of focused and coherent content development strategies.

Fundamentally, educators and institutions provide focused guidance and resources to enhance alignment with learning objectives. Providing students with explicit frameworks for comprehending

and executing learning objectives can facilitate the connection between theoretical knowledge and practical application. Students can be supported in producing content that aligns with educational objectives through workshops on curriculum design, access to instructional design resources, and mentorship opportunities. Institutions can improve the quality and impact of educational resources by providing students with the essential tools and expertise for effective content creation. This ensures that the materials inform and contribute significantly to student learning and success.

4 Conclusion

In summary, this study clarifies the complex difficulties students in the English Education Program encounter when producing digital instructional materials. The results indicate that students have substantial challenges in various crucial aspects, including editing, time management, geographical restrictions, equipment constraints, and connecting content with learning goals. Each of these difficulties affects the capacity to create educational resources of superior quality and effectiveness, underscoring the necessity for focused interventions. To solve these problems, a thorough approach is needed, which involves providing better assistance for editing procedures, implementing ways to handle time limitations, enhancing access to resources and technology, and offering direction on aligning content with educational objectives. By prioritizing these specific areas, educational institutions may effectively prepare students to traverse the intricacies of digital content creation, ultimately resulting in more influential and captivating learning experiences. This study highlights the need to create strong training programs and tools to assist upcoming educators in developing digital literacy skills and enhancing the overall quality of instructional materials.

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