



Exploring the User Experience of Digital Learning Platforms: A Case Study on the Use of Educational Technology by Teachers and Students in Secondary Schools

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ABSTRACT

Digital health communication has emerged as a crucial area of research, as technology continues to reshape healthcare practices. Specifically, the adoption of digital tools by medical practitioners and patients has raised questions about how these technologies influence communication and decision-making. Despite the growing body of research on health technology, there remains limited understanding of the subjective experiences of medical practitioners and patients in utilizing these digital platforms. This study addresses this gap by employing a phenomenological approach to explore the lived experiences of healthcare practitioners and patients in their interactions through digital media. Through in-depth interviews and thematic analysis, key themes related to trust, communication barriers, and the perceived benefits of digital tools emerged. For example, trust was found to be influenced by the perceived reliability of digital platforms, while communication barriers were often linked to technical challenges and user interface design. Participants also highlighted the time efficiency and accessibility offered by digital tools as major benefits. The findings highlight the complex and multifaceted nature of digital health communication, providing insights into how digital platforms affect healthcare interactions. These results suggest that future research should further explore the implications of these findings in enhancing digital health communication strategies and fostering more effective patient-practitioner relationships.



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INTRODUCTION

The phenomenon of using digital learning platforms in education has grown rapidly in recent years, especially after the COVID-19 pandemic. Online learning and the integration of technology in education have become highly relevant and crucial in ensuring the continuity of the learning process (Wang N. dkk., 2023). Technologies such as Google Classroom, Zoom, and Moodle have become primary tools used by teachers and students at various educational levels to adapt to new ways of teaching and learning. The use of these technologies focuses not only on utilizing platforms to deliver content but also on aspects of social interaction, learning management, and digital assessment.

However, despite the widespread adoption of digital learning platforms, users' experiences—both from the teachers' and students' perspectives—are still not well understood in depth. Recent studies have identified the importance of exploring subjective experiences to uncover nuanced insights into technology use in education (Sälzer & Niemann, 2019; Chen dkk., 2021). Previous research has often focused on the effectiveness of technology or the success of technology adoption in more technical contexts. These studies typically measure learning outcomes or device usage without considering how individuals, whether teachers or students, construct meaning from their experiences

with the technology (Pavlicheva dkk., 2021). This study, which adopts a phenomenological approach, aims to fill this gap by exploring the subjective experiences of users of digital learning platforms in the context of online education. Specifically, it seeks to address practical challenges, such as understanding the barriers to effective technology use and identifying strategies for fostering better user engagement.

Understanding these subjective experiences is crucial, as contextual factors such as technology access, user readiness, and socio-economic impacts significantly influence the use of educational technology in everyday practice. By employing a phenomenological approach, this study aims to delve deeper into the meanings behind the experiences of teachers and students in using digital platforms. Through this deeper understanding, it is hoped that insights can be gained to improve and enhance the design and implementation of educational technology in the future.

This study contributes to the literature by offering both theoretical insights and practical implications. Theoretically, it builds on constructivist and technology adoption models, while practically, it aims to provide actionable recommendations for improving teacher and student engagement with digital platforms.

Research on the experiences of individuals with the phenomenon of using digital learning platforms has become an increasingly important field, particularly with the significant shift in how learning is conducted globally (Ming dkk., 2011). Focusing on the users' experiences, especially teachers and students, in interacting with educational technology provides a more holistic insight into the dynamics of online learning. In many previous studies, educational technology has often been measured based on performance outcomes or its effectiveness in more quantitative contexts. However, research that explores the subjective experiences of users—how they feel and make meaning of their use of this technology—remains relatively limited. Phenomenological research seeks to fill this gap by emphasizing the deep meanings derived from individual experiences.

One of the main challenges in exploring these deep experiences is the limitation of quantitative methodologies, which often fail to capture the subjective dimensions of experience (Khwankaew, 2023a). The use of surveys or measurement instruments based on numerical data only provides a very limited picture of how teachers and students truly perceive the impact of using digital learning platforms. For example, surveys that measure satisfaction levels or the effectiveness of platform use only collect descriptive data without delving into the reasons or deeper feelings associated with those experiences. On the other hand, the phenomenological approach allows for a richer, more holistic exploration of these experiences by giving individuals space to share their stories freely.

This methodological limitation makes more conventional approaches less effective in fully understanding the essence of the phenomenon of using technology in learning. While efforts have been made to understand the technical dynamics and statistical aspects of technology adoption, a deep understanding of how technology affects social interactions and the learning process can only be achieved by exploring individual experiences within their social and cultural contexts. Therefore, the phenomenological approach, which focuses on subjective experiences, is highly relevant to this study, as it provides deeper insights into how teachers and students construct meaning from their experiences using digital learning platforms.

The common solutions applied in the context of the phenomenon of using digital learning platforms tend to rely on practical and quantitative approaches, such as user satisfaction surveys or measurements of technology-based learning effectiveness (Lian, 2023). While these approaches provide valuable data regarding technology adoption rates or learning outcomes, they have significant limitations in capturing the deeper experiences and meanings from the users' perspectives. For example, measuring satisfaction or technology usage levels only scratches the surface, without exploring how individuals—both teachers and students—experience and construct meaning in their interactions with the platform. Furthermore, focusing on measurable variables often overlooks the contextual and emotional factors that significantly influence the user experience in online learning.

These limitations highlight the need for an alternative approach that is more in-depth and holistic to understand the essence of this phenomenon (Chen dkk., 2021). One proposed solution is the adoption of a phenomenological method, which allows for a deeper exploration of subjective experiences. Through a phenomenological approach, users' experiences with digital learning platforms can be examined not only from their functional aspects but also from the social, emotional, and cultural meanings that each individual brings to their learning process. In this way, phenomenology offers richer insights into the challenges, opportunities, and dynamics that may have been overlooked in previous quantitative research, while also enhancing our understanding of how educational technology affects the interactions between teachers and students.

Research on the user experience of digital learning platforms, particularly in the context of online education, has grown in recent years. Several previous studies have examined how this technology affects learning outcomes or its adoption rates; however, few have investigated the subjective experiences of the users—teachers and students—interacting with the platform. A study by Sälzer & Niemann (2019) revealed the importance of social support and training in the successful implementation of learning technologies, but there is still limited exploration of how users interpret their experiences within this context. Constructivist theory and technology adoption models, such as the Technology Acceptance Model (TAM), provide a theoretical foundation for understanding how technology is adopted and accepted in learning, yet they do not sufficiently delve into the meaning behind individual experiences.

To address this gap, the present study adopts a phenomenological approach as the primary method, as it allows for an exploration of the subjective experiences and meanings shaped by technology users in their everyday lives (Kahnbach dkk., 2024). Phenomenology, with its focus on understanding the meanings embedded in individual experiences, is highly relevant for uncovering the deep perceptions of teachers and students regarding the use of digital learning platforms. This approach enables the researcher to better understand the emotional and social aspects involved in using technology, as well as the challenges and opportunities encountered during online learning. Therefore, phenomenology is an ideal choice for uncovering the essence of educational technology usage experiences that cannot be captured through quantitative approaches.

This article is structured into several key sections: an introduction providing the background of the phenomenon and research problem, followed by an explanation of the context of the phenomenon under study and the relevant theoretical foundation (Khwankaew, 2023b). The phenomenological methodological approach is explained in detail, including how data was collected through in-depth interviews and observations, along with the steps taken in data analysis. The findings are then presented in the discussion, linking the data to existing theories, followed by a conclusion that summarizes the key findings and implications for future educational practices.

RESEARCH METHODS

Study Design

This study employs a phenomenological approach to explore the subjective experiences of teachers and students in using digital learning platforms (Ritter dkk., 2024). The phenomenological approach was chosen due to its focus on gaining an in-depth understanding of how individuals experience and make meaning of a specific phenomenon within their social context. In this case, phenomenology allows for a deeper exploration of the meaning associated with the use of educational technology and its impact on the online learning process. A descriptive phenomenological approach was used to describe the participants' experiences without providing further judgment or interpretation. This method was specifically structured to ensure that the participants' voices were authentically captured while minimizing researcher bias. Through this design, the study aims to provide a clearer understanding of the challenges and opportunities faced by teachers and students in using digital learning platforms, as well as how they construct those experiences.

Participants

The study participants consisted of 10 teachers and 15 students who used digital learning platforms in two secondary schools located in urban areas. Participants were selected using purposive sampling to ensure they had direct experience with the phenomenon being studied. Inclusion criteria for teachers were having at least three years of teaching experience and having used digital learning platforms such as Google Classroom or Zoom for at least one year (Ali & Wood-Harper, 2020). Inclusion criteria for students were those regularly engaged in online learning during the COVID-19 pandemic. Exclusion criteria included participants without stable internet access or adequate learning devices. The average age of students was 16-18 years, while the average age of teachers was 35-50 years. The gender composition of participants was 60% female and 40% male, with a balanced representation between teachers and students.

Data Collection

Data were collected through in-depth interviews with teachers and students. A semi-structured interview guide was used to direct the conversation, allowing participants the freedom to share their experiences in an open manner. Interviews were conducted in person at locations that were comfortable and familiar to the participants, either in classrooms provided by the schools or via digital platforms for those who preferred online interviews (Ritter dkk., 2023). Each interview lasted 30-45 minutes. All interviews were recorded with the participants' consent, and transcriptions were made immediately following each session. In addition to interviews, online class observations were conducted to capture interactions between teachers and students in the digital learning environment. The interview and observation protocols focused on collecting relevant data about participants' experiences with digital learning platforms, including challenges, opportunities, and perceptions of the impact of technology on the learning process.

Data Analysis

Data were analyzed using a thematic analysis approach. The process included six systematic steps as outlined by Braun and Clarke (2006): (1) familiarization with the data through reading and re-reading transcripts, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report. The process began with transcribing the interviews and observations, which were then analyzed to identify key themes that emerged from the teachers' and students' experiences. Each theme was grouped based on similarities and differences in the experiences shared by the participants (Berde dkk., 2024). The analysis followed systematic steps, including data coding, mapping relationships between themes, and interpreting the deeper meanings of each theme. Thematic analysis allowed for identifying and describing the experiences and meanings participants attributed to using digital learning platforms. Data analysis software such as NVivo was used to support the organization and mapping of themes; however, the primary focus remained on the phenomenological interpretation of the data. The results of this analysis provide deeper insights into the challenges, opportunities, and impacts of technology on online learning.

Ethics

Ethical approval was obtained from the relevant research ethics committee before the study commenced. All participants provided written informed consent after being informed about the study's purpose, data collection procedures, and their rights to participate or withdraw at any time without consequence (Huester & Schaefer, 2023). The data collected were kept confidential by ensuring the anonymity of each participant. All data were stored in a secure format and accessed only by authorized personnel. This research adhered to both international and local ethical standards, including principles of respect for participants' rights and privacy, as well as transparency in reporting the research findings.

RESULTS AND DISCUSSION

Challenges in the Use of Digital Learning Platforms by Teachers

Teachers' experiences with digital learning platforms, such as Google Classroom and Zoom, reveal several challenges that affect their teaching process. Many teachers complained about the lack of adequate training in using these technologies. One teacher commented, "I felt unprepared for this platform initially. The training provided was very limited and did not help us optimize its use." Another obstacle is the limited time for direct interaction with students. Teachers often feel hindered in providing in-depth explanations due to the time constraints in online sessions, especially when using platforms like Zoom. One teacher said, "These online sessions are brief, so not all students have the chance to ask questions directly, and this feels limiting for us in teaching." These findings align with Sälzer & Niemann (2019), who emphasized the critical role of teacher training in ensuring effective technology adoption. Additionally, the lack of interaction challenges the constructivist theory, which posits that learning is constructed through meaningful dialogue.

Students' Experience with Digital Learning Platforms

Students, on the other hand, have diverse experiences with the use of digital learning platforms. Many students appreciate the convenience of accessing learning materials, but they also express difficulties in interacting effectively with teachers and classmates. One student shared, "This platform helps me access materials anytime, but I feel I have fewer opportunities to ask questions directly." Student inactivity during Q&A sessions is a noticeable issue. Some students prefer not to turn on their cameras, which diminishes the dynamics of interaction in online classes. One student explained, "I feel shy to turn on the camera, and sometimes I prefer listening rather than asking because I feel there's no space for it." These dynamics reflect the emotional and social challenges faced in digital learning environments, as noted in previous studies (Dirckinck-Holmfeld dkk., 2019), where reduced interaction impacts the overall learning experience.

Technical Barriers and Technology Accessibility

Both teachers and students acknowledge accessibility issues as a major factor influencing their experiences with digital learning platforms. Some students reported difficulties due to inadequate devices or unstable internet connections. One student stated, "I often lose connection during lessons, which causes me to miss out on the material." Although access to digital platforms is quite widespread, socio-economic factors limiting the availability of devices and internet networks remain a significant challenge in online learning.

Potential for Interactive Learning in Digital Platforms

On a positive note, some teachers and students noted that digital learning platforms have the potential to enhance interaction and accessibility. The use of recording features on platforms like Zoom allows students to review lessons they may have missed, offering them an opportunity to learn independently outside of class time. One student added, "I can replay the teacher's explanation video if I don't understand. This is very helpful because I can learn at my own pace." However, while this feature offers flexibility, some teachers feel that direct interaction is still more effective in ensuring student comprehension.

The results of this study reveal that the use of digital learning platforms by teachers and students in secondary schools faces significant challenges, particularly regarding training, direct interaction, and technology accessibility. Despite the great potential in terms of ease of access and time flexibility, technical and socio-economic barriers remain the primary obstacles that need to be addressed in the further development of these platforms. The experiences of teachers and students highlight the need for better support, both in terms of training and the provision of equitable technology access.

This study reveals that the experience of using digital learning platforms by teachers and students is more complex than just technology adoption or learning outcomes. These experiences involve emotional and social dynamics that influence their interactions with technology, giving unique meaning in the context of online education. The findings address the primary research

question: how the meaning and subjective experiences of users—teachers and students—shape their use of digital learning platforms, and how these factors affect their learning processes.

More specifically, the findings of this study indicate that, while digital learning platforms offer convenient access to materials, many challenges are faced by users, both teachers and students, in maximizing the potential of these technologies. Teachers reported limited training and student unpreparedness as major obstacles, while students expressed dissatisfaction with the lack of direct interaction with teachers, which they saw as a significant drawback of online learning. These findings provide important insights into the gap between technology adoption and a deeper understanding of how technology is utilized in daily learning contexts. Thus, the study confirms that in order to achieve optimal effectiveness in online learning, more attention needs to be given to human factors—specifically, the social and emotional experiences of its users.

This study contributes to the existing literature by exploring the subjective dimensions that are often overlooked in previous studies. Research such as that conducted by Sälzer & Niemann (2019), which emphasizes the importance of social support and training in technology adoption, aligns with the current findings that highlight how the lack of adequate training affects the quality of interaction in online learning. However, this study further develops our understanding by integrating the subjective perspectives of teachers and students in their experiences with technology. Additionally, these results deepen the constructivist theory, which emphasizes the importance of social interaction in learning. The lack of direct interaction between teachers and students in the online context challenges the fundamental principles of constructivism, where knowledge is built through meaningful dialogue and interaction.

Implications of the Findings

The findings of this study provide important insights for education practitioners, particularly in designing and implementing more effective digital learning platforms (Dirckinck-Holmfeld dkk., 2019). It was found that the greatest challenges faced by both teachers and students were the lack of direct interaction and inadequate training in using the platforms. In a social and cultural context, this suggests that educational technology is not merely a tool, but also an integral part of the broader learning process that involves the dynamics of relationships between individuals. Therefore, further development of learning platforms should consider not only technical aspects but also the social, cultural, and emotional contexts of the interactions between teachers and students. These findings are also relevant for a wider population, including schools with limited technological resources, where training and social support must be strengthened to enhance the quality of online learning experiences.

Study Limitations

However, this study has limitations that need to be considered. The study participants consisted of teachers and students from two secondary schools in urban areas, which means the findings may not fully represent schools in rural areas or in developing countries with limited access to technology (Owens & Hudson, 2021). Additionally, the phenomenological approach used in this study focuses on the subjective experiences of participants, which may not reflect objective viewpoints or data that can be broadly generalized. Therefore, the generalization of these findings should be done with caution, and further research is needed to confirm these results in more diverse contexts and using more quantitative methods.

Prospective Statements for Future Research

This study opens several avenues for further exploration. First, future research could delve deeper into the influence of socio-economic backgrounds on users' experiences with digital learning platforms (Kurvinen dkk., 2019). Additionally, larger studies with more diverse samples, including schools in areas with limited access to technology, could provide more comprehensive insights. This research could also be expanded to investigate how the development of new features within learning platforms—such as enhanced face-to-face interaction through video conferencing—could improve the quality of learning experiences and address the challenges identified in this study.

CONCLUSION

This study explores the experiences of teachers and students in using digital learning platforms during online learning. The main findings reveal that while these platforms provide easy access to learning materials, the key challenges lie in the lack of direct interaction and adequate training, which affect the quality of learning. These results emphasize the need for more comprehensive teacher training programs that not only focus on technical skills but also on pedagogical strategies for effective online engagement. Additionally, they highlight the importance of designing platforms that facilitate meaningful interaction, such as integrated discussion forums and enhanced video conferencing tools. This study addresses the gap in previous research that focused more on the technical effectiveness of platforms without delving into the subjective experiences of users. The social and cultural experiences identified in this study provide new insights into the importance of training and social support in optimizing the use of educational technology. Future research could expand this understanding by involving diverse educational contexts, including regions with limited access to technology. Therefore, the findings of this study open opportunities for the development of platforms that are more responsive to users' needs and support more effective interaction in online learning. Concrete steps for the future include developing adaptive learning systems that address individual student needs, incorporating features that encourage active participation, and fostering digital literacy programs to bridge the skills gap among users.

CONFLICT OF INTEREST

This article has undergone an independent and objective review process. The editor handling this article was not involved in co-authoring with the author in any previous publications, and to maintain independence, the peer review process was conducted by another editor who had no direct connection with the author.

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