Philosophy of Education In Digital Transformation: Ethical Considerations For Students’ Data Security In Online Learning Platforms

1Ahmad Nusi, 2M. Zaim
1 Language Pedagogy, Language and Arts, Padang State University, ahmadfbs@student.unp.ac.id
2 Language Pedagogy, Language and Arts, Padang State University, mzaim@fbs.unp.ac.id

*Corresponding Author
Language Pedagogy, Language and Arts, Padang State University, mzaim@fbs.unp.ac.id

Abstract
The integration of technology into education has ushered in transformative changes, but ethical considerations pose significant challenges. This survey-based study delves into the complexities of educational technology ethics, exploring perspectives from both lecturers and students in the context of Indonesian Society and Arts at Ekasakti University of Padang. Twenty students and three lecturers participated as respondents, shedding light on the ethical dimensions of technology integration. Lecturers exhibited diverse preferences in online learning platforms, emphasizing the need for flexibility in educational tools. Meanwhile, students generally expressed confidence in data security on e-learning platforms, coupled with a moderate awareness of privacy policies. However, experiences with security issues warrant attention, signaling areas for improvement in data protection measures. The study underscores the importance of understanding varied preferences among educators and enhancing data security measures to foster a positive online learning experience. By addressing ethical concerns, this research contributes to navigating the evolving landscape of educational technology, ensuring that the digital transformation aligns with ethical principles and facilitates meaningful learning experiences.

Keywords: Digital, Digital Education Ethics, Online Security, Challenges

© 2023 Jurnal JIPS

1 INTRODUCTION
The utilization of technology in education has brought significant changes to the educational process in the digital era. However, many issues arise in the use of technology, especially concerning ethical and values-based aspects (Escueta et al., 2020; W. Park & Kwon, 2023; See et al., 2022). One notable concern is the unclear use of technology. In this regard, questions arise regarding how lecturer and students comprehend and interpret the ethics of technology use in learning. Are there differences in the understanding of values between them? This
research will examine the perspectives of lecturer and students on the ethics of educational technology use and possible differing viewpoints that may affect teaching effectiveness. In the context of teaching Indonesian Society and Arts at Ekasakti University of Padang, the use of technology and teaching methods has become a vital part of students' learning experiences. For instance, in this course, learning materials are often delivered through digital learning platforms using various technologies such as multimedia presentations, art videos from YouTube, and other online resources (Haleem et al., 2022; Ngoc et al., 2020; Teräs, 2022; Teräs et al., 2020).

Furthermore, the use of social media and online discussion forums allows students to interact and share information related to Indonesian society and arts. While this technology facilitates easy access to information, ethical and values-based questions must be considered. For example, in the use of social media and discussion forums, differing concepts of technology ethics often arise. Some students may be willing to use social media to share their thoughts on Indonesian society and arts, but they may not be prepared to contemplate the ethics of online communication. This can lead to conflicts between traditional and digital values, where traditional values emphasize respect and communication, while social media often leads to uncouth behaviors and disputes (Barrot et al., 2020; S. Park & Kim, 2021; Mukhtar et al., 2020; S. Park & Kim, 2021; Patricia Aguilera-Hermida, 2020). This creates ethical challenges in understanding how technology should be used in communication and information sharing.

In the collection and processing of student data using technology, privacy and data security aspects also raise concerns. The use of technology to assess students' knowledge can enhance the collection of their personal data (Gunawan, 2021). For example, when students take online exams, their personal data, such as exam results and coursework, may be recorded. This raises ethical questions about how this data is stored and utilized and how student privacy is safeguarded. Addressing the conflict between technology's data collection and the highly valued principles of privacy in an educational context is a vital question that needs to be comprehended and resolved. As a first example, the use of an online learning system allows students at Ekasakti University of Padang to access learning materials, submit assignments, and take exams online. When students participate in online exams, the system can record their results and the time spent on each question. This is a concrete example of how technology can be used to collect students' personal data in the educational sector.

As a second example, the use of course management software enables lecturers to monitor students' progress in submitting assignments and comprehending course materials. This data includes when students receive materials, how long they spend on learning, and how well they complete assigned tasks. This data is used to track student progress and provide feedback. Although this data can help improve learning, the collection and use of data also need to consider students' ethics and privacy (Das, 2022; Li & Ma, 2021; Mainul Hossain et al., 2022; Pontoan et al., 2023; Sabharwal et al., 2023).

In the field of Indonesian technical education at Ekasakti University of Padang, the use of technology can also raise concerns regarding misinformation. For example, when students search for information related to course topics, they can find various online sources. However, not all of these sources can be considered authentic or trustworthy. Using technology to search for information can expose students to inaccurate or irrelevant information. In this context, the training component involves how students analyze and process the information they find online, and a group of experts assists students in developing the skills needed to evaluate the information sources they discover on the Internet.

Additionally, the conflict between traditional values and quantitative values persists in the misinformation problem. Traditional values and education often emphasize the importance of in-depth knowledge and thorough research, while technology often provides information quickly and without clear consensus. This creates a conflict when deciding how students will access and use information in the learning process. If data is not properly supported and stored, it can also become a privacy and security issue. For example, if students need to use an online platform to upload work or participate in online discussions, their personal data, such as names and identities, may be disclosed, and their security cannot be guaranteed. In this case, it must be clear about ethics for specific students and protect them as set
aside. This finding will be considered a technology result in this part of the study in the class and art in Indonesia.

Lastly, student engagement and involvement are another critical issue. While technology can facilitate student engagement in learning, questions arise about how technology should be used to ensure proper participation and involvement in the classroom. Does ethics play a role in ensuring that all students have an equal opportunity to participate in learning? This research will explore the challenges and solutions related to student involvement in educational technology. By understanding and addressing these questions, the research aims to provide a better perspective on how technology can be used fairly and efficiently in an educational environment, while avoiding ethical issues that may arise during the digital transformation in the classroom (Ahmad et al., 2023; Chan, 2023).

In conclusion, the research titled philosophy of education in the digital transformation: ethical considerations for students’ data security in online learning platforms has a strong and relevant background in the current developments in education in the digital age. The utilization of technology in education has brought significant benefits but has also presented various challenges (Adedoyin & Soykan, 2023; Almahasees et al., 2021; Chung et al., 2020; Hoi et al., 2021; Shea, 2022). These challenges are associated with ethical and value-based aspects, including unclear technology use, conflicts between traditional and digital values, privacy and data security issues, and student engagement in technology-based learning.

Therefore, this research seeks to better understand how technology can be used ethically and effectively in an educational setting, while avoiding ethical issues that may arise during the digital revolution in the classroom. We hope that this research will provide a deeper understanding of how education in the digital era can address values, ethics, and principles that support meaningful learning. Consequently, this research will serve as a crucial foundation for creating better teaching practices and ensuring that education in the digital age remains relevant, fair, and of high quality.

II RESEARCH METHODS

The type of research conducted was quantitative research using a survey method. This study involved students utilizing online learning platforms and collected data through questionnaires or interviews to assess their perceptions of data security (Hasib et al., 2020; Mann, 1985; Zhang et al., 2017). The respondents consisted of 20 students and 3 lecturers.

The results of the questionnaires were computed using the Likert scale formula. The Likert scale assigns numerical values to responses, allowing for the quantification of participants’ perceptions. Descriptive statistics, such as mean scores and standard deviations, were calculated to summarize the data and provide insights into the overall trends in participants’ views on data security within online learning platforms.

III RESULTS AND DISCUSSION

Online learning platforms

The findings highlight diverse preferences among three lecturers regarding their choice of communication and collaboration tools across various platforms. Lecturer 1 demonstrates a significant preference for Google Classroom, with 50% of their usage, followed by Google Drive at 30%. However, email is less frequently utilized, accounting for 20% of their communication methods. WhatsApp and Edmodo each contribute to 20% and 30%, respectively.

Lecturer 2, on the other hand, favors Google Drive the most, constituting 50% of their tool usage, closely followed by Google Classroom at 30%. Email and WhatsApp are utilized at the same frequency, each accounting for 20%. In contrast, Edmodo represents a less-preferred choice at 20%.
Students' perceptions of data security within online learning platforms

The table below summarizes the findings from the Likert scale analysis, providing an overview of the average scores for each question and the corresponding description of participants' perceptions related to data security within the e-learning platform.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Lecturer 1</th>
<th>Lecturer 2</th>
<th>Lecturer 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Drive</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Email</td>
<td>3.5</td>
<td>3.5</td>
<td>4</td>
</tr>
<tr>
<td>WhatsApp</td>
<td>3.5</td>
<td>3.5</td>
<td>4</td>
</tr>
<tr>
<td>Edmodo</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Diverse Preferences in Tool Usage Among Lecturers

The findings from the first set of data reveal a diverse range of preferences among three lecturers in choosing communication and collaboration tools on various online platforms. Lecturer 1 exhibits a significant inclination towards Google Classroom, emphasizing its role in their educational communication. In contrast, Lecturer 2 favors Google Drive as their primary tool, while Lecturer 3 equally prioritizes Google Drive and Edmodo. The variation in preferences emphasizes the need for flexibility in incorporating diverse tools to cater to individual lecturer preferences.

Additionally, the varied tool preferences among lecturers suggest that there may not be a one-size-fits-all solution in the selection of online platforms. This diversity highlights the importance of providing educators with options and training to adapt to multiple tools, fostering a more inclusive and versatile educational environment.

Student Perceptions of Data Security within Online Learning Platforms

The second set of findings focuses on students' perceptions of data security within online learning platforms. The Likert scale analysis indicates a generally positive sentiment, with participants expressing confidence in the security of their personal data on the e-learning platform. This positive perception is further supported by the participants' moderate awareness of privacy policies and their belief that their personal information is adequately protected.

The Likert scale analysis of responses from 20 student participants regarding data security within an e-learning platform revealed nuanced insights. Participants generally exhibited a moderate level of confidence in the security of their personal data on the platform, as reflected in the average score of 3.75. Moreover, their demonstrated awareness of the privacy policy garnered a moderate average score of 3.45, indicating a satisfactory understanding of the guidelines governing personal data. The perceived data protection received an average score of 3.6, suggesting that participants, on average, felt adequately shielded by the implemented security measures. However, the acknowledgment of experiences with security issues, reflected in the average score of 2.9, highlights existing challenges that demand attention. Additionally, participants expressed a clear preference for e-learning platforms with stringent security policies, signified by the high average score of 3.65. The emphasis on the importance of clear privacy policies (average score of 3.85) underscores participants' expectations for transparent information dissemination.

Furthermore, their belief in e-learning platform providers' responsibility for security (average score of 3.7) indicates a shared expectation of accountability. The desire for more control over security settings (average score of 3.6) emphasizes participants' autonomy preferences. Despite an overall positive perception, concerns about potential misuse (average score of 3.65) suggest a nuanced apprehension. Lastly, the tendency to avoid unnecessary information sharing (average score of 3.55) reflects participants' cautious approach. These findings collectively depict a comprehensive landscape of student perceptions, highlighting both positive evaluations and areas that warrant further attention in the realm of e-learning platform security.

However, the findings also reveal areas of concern, particularly in participants' experiences with security issues, as indicated by a lower average score. This suggests that while the overall perception is positive, there are instances of security challenges that need attention. The expressed preference for e-learning platforms with strict security policies, coupled with a desire for more control over security settings, underscores the importance of addressing these concerns to
enhance students’ confidence and trust in online learning platforms.

The participants’ emphasis on the importance of clear information about privacy policies and their belief in the responsibility of e-learning platform providers for security further highlights the need for transparent communication and accountability in the educational technology landscape. This insight is crucial for educators and platform developers to ensure that students feel secure and informed in their online learning environments.

In summary, these findings underscore the significance of understanding and accommodating diverse preferences among educators while also emphasizing the importance of addressing and enhancing data security measures to promote a positive and secure online learning experience for students.

Digital Education Ethics

Based on the findings presented, several Digital Education Ethics can be applied to enhance the ethical considerations in the integration of technology into education.

Transparency in data handling is paramount, emphasizing the need for clear and open communication with students regarding the collection, storage, and utilization of their data (Joiner, 2019; Valeeva, 2022). This encompasses providing detailed information about privacy policies and outlining measures in place to safeguard their data. Furthermore, flexibility and inclusivity are crucial aspects, recognizing the diverse preferences among educators. The study underscores the importance of accommodating these differences by offering flexibility in the selection of online learning platforms and tools, promoting inclusivity in the adoption of educational technology.

Empowering users, particularly students, is another essential dimension. Acknowledging students’ desire for autonomy in managing their personal information within e-learning platforms, institutions should provide them with increased control over their data security settings.

Continuous improvement in data protection measures is vital, especially in addressing experiences with security issues. This involves a proactive approach, regularly updating security protocols, and promptly addressing any identified challenges to mitigate potential risks (Kaitatzi-Whitlock, 2020; Rogerson, 2021). Promoting educational technology literacy is crucial for both lecturers and students. This includes enhancing awareness of ethical considerations, privacy policies, and best practices in utilizing technology for educational purposes.

A shared responsibility model is emphasized, underlining the collaboration between educators and e-learning platform providers for ensuring data security. This partnership is instrumental in creating a secure online learning environment that prioritizes the protection of user data. Establishing and communicating clear ethical guidelines for the integration of technology in education is a foundational step. This entails setting standards for responsible technology use, respecting privacy, and addressing ethical challenges that may arise during the educational process (Brown, 2014; Ott & Tiozzo, 2022; Zvereva, 2023).

Ultimately, the integration of technology should not only focus on efficiency but also prioritize meaningful learning experiences. Aligning the digital transformation with ethical principles ensures that technology enhances the overall educational experience, contributing to a positive and responsible online learning environment. By incorporating these Digital Education Ethics, educational institutions can navigate the challenges posed by the integration of technology, fostering a positive and ethical online learning environment for both educators and students (Hakimi et al., 2021; Wulandari et al., 2021).
IV CONCLUSION

The findings from the study highlight the varied preferences among three lecturers in terms of communication and collaboration tools on online learning platforms. Lecturer 1 predominantly utilizes Google Classroom (50%) and Google Drive (30%), emphasizing a preference for these platforms. In contrast, Lecturer 2 favors Google Drive the most (50%) and closely follows with Google Classroom (30%), while Edmodo is a less-preferred choice. Lecturer 3 adopts a distinctive approach, evenly distributing emphasis between Google Drive and Edmodo (both at 50%), with equal importance given to email (50%). These diverse patterns underscore the need to acknowledge individual preferences, reflecting a dynamic landscape in the use of technology for educational interactions among surveyed lecturers.

Turning to students' perceptions of data security within online learning platforms, the Likert scale analysis reveals generally positive sentiments. On average, participants expressed reasonable confidence in the security of their personal data (3.75), moderate awareness of privacy policies (3.45), and a perception that their personal information is adequately protected (3.6). However, the acknowledgment of experiences with security issues (average score of 2.9) suggests areas for improvement. Notably, participants expressed a preference for platforms with strict security policies (3.65) and emphasized the importance of clear information about privacy policies (3.85).

Belief in the responsibility of e-learning platform providers for security (3.7), a desire for more control over security settings (3.6), and concerns about potential misuse of personal data (3.65) further shape the nuanced landscape of student perceptions. In summary, the study illuminates both the diverse tool preferences among lecturers and the multifaceted perceptions of data security among students in the online learning environment.
Bibliography


https://doi.org/10.1016/J.NEUCOM.2022.1.04.112


