Data Privacy in Educational Contexts: Analyzing Perceptions, Practices and Challenges in Personal Data Protection - Extended Abstract CTDGSI 2025

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Abstract. *This extended abstract presents a study on personal data privacy in educational contexts. Combining a survey and a systematic literature review, it analyzes perceptions, practices, and challenges in protecting student and teacher data. The findings reveal significant gaps in the privacy Brazilian law LGPD (Lei Geral de Proteção de Dados Pessoais) knowledge, inadequate training, and insufficient data security measures across institutions. In addition, discrepancies in data handling practices between professors and students are highlighted, emphasizing the need for clearer policies and improved transparency. Finally, the research contributes suggestions for future work aimed at enhancing regulatory compliance and fostering a culture of privacy in education.*

1. Introduction

The increasing reliance on technology has made personal data collection a common practice, raising concerns about privacy and security [Santos et al. 2021][Neto et al. 2024]. In education, institutions handle various student data, including academic records, financial details, and demographic information [Rosso 2023]. Ensuring data protection requires clear policies on access control and awareness initiatives for students, teachers, and parents [Machado et al. 2023]. Regulations, such as GDPR and LGPD, reinforce the need for comprehensive data security strategies, while the improper disposal of personal documents increases risks such as identity theft and fraud [Mackenzie].

Beyond compliance, fostering a culture of data protection remains a challenge [Santos et al. 2021]. Continuous training and awareness programs are crucial to integrating security practices into institutional routines [Rojas 2020]. Given education's role in knowledge dissemination, schools and universities can leverage this to promote privacy awareness. This paper is an extended abstract of a previous study [de Barros and Vilela 2025] that aimed to answer the following research questions: *How are personal data collected, processed, and protected in educational institutions, and what challenges and practices are associated with their use?*

This document is organized as follows: Section 2 discusses some related works; Section 3 describes the research methods employed; Section 4 summarizes the findings; and finally, Section 5 outlines the conclusions and suggestions for future research.

2. Related Work

Some studies highlight concerns about privacy and the use of personal data in different contexts. [Baloyi and Kotzé 2017] found that most South Africans do not read privacy policies, yet recognize the risks of data misuse, with 72% distrusting the data protection capabilities of organizations. In education, [Martinovic and Ralevich 2007] emphasized the risks in collecting academic and demographic data without adequate security measures. [Mollick and Pearson 2003] linked transparency issues in university data collection with student alienation, particularly with regard to sensitive information. Meanwhile, [E. Mougiakou and Virvou 2020] examined GDPR compliance in educational platforms, advocating for clearer communication of user rights and Data Protection Impact Assessments (DPIAs). All studies stress the need for transparent policies, digital education, and stronger institutional data protection practices.

3. Research method

The study adopted the survey and systematic review methodologies due to their effectiveness in collecting and analyzing data consistently. More details of the research method can be found at the original study [de Barros and Vilela 2025]. An overview of the research steps conducted in each method are described below.

Survey. The steps of [Kasunic 2005] were followed to design and execute a survey to assess user perceptions of data privacy and LGPD compliance in educational settings. The subjects were professors and students from various higher education institutions. The survey was disseminated through institutional emails and social media between August 6 and September 21, 2024. A total of 125 responses (17 professors, 108 students) were collected, providing valuable insights into participants' privacy concerns and knowledge of LGPD.

Systematic Literature review. A SLR was conducted following Kitchenham and Charters guidelines [Kitchenham et al. 2009] to analyze personal data processing in educational environments. We defined a central research question on data collection, processing, and protection, further expanded into four secondary questions addressing challenges, compliance practices, types of data handled, and processing methods. A structured search was performed across IEEE, Science Direct, ACM, Scopus, and SOL, initially retrieving 126 articles. A three-step selection process was applied, including exclusion based on abstract, inclusion criteria focusing on publication date, language, and relevance, and a final quality assessment. After filtering, only 6 studies were selected [de Barros and Vilela 2025] to data extraction.

4. Results

Brief summary of Survey Results. The survey results highlight significant gaps in data privacy awareness and institutional practices in educational settings. Most students (67%) were young adults (18-25), while professors had a more balanced age distribution. Public university participants dominated the study (96%), with 86.4% being students. Regarding LGPD knowledge, both groups demonstrated limited understanding, with only 1.9% of students and 5.9% of professors reporting a "very good"understanding. Additionally, 58.8% of professors had received no institutional training on data protection. Transparency and security concerns were prevalent, as 76.5% of professors were unaware of their

institution's privacy policies, and 42.6% of students were uncertain about consent practices for data collection. Lack of knowledge regarding LGPD is also reported by Ovidio et al. [de Melo et al. 2024].

Participants also expressed concerns about data security and ethical handling. Among professors, 47% trusted their institution's data storage security, while 64.7% were unaware of procedures to protect student data. Students faced challenges in accessing privacy policies (51% unsure) and lacked awareness of data correction or deletion processes (83%). Notably, 62% of students knew someone affected by data misuse, reinforcing widespread apprehension. These findings highlight the need for improved transparency, clearer institutional policies, and targeted educational initiatives to enhance data protection awareness and compliance in educational institutions.

Brief summary of Systematic Literature Review Results. Educational platforms collect a wide range of personal data, including names, enrollment numbers, academic records, and demographic details [Mackenzie , Mougiakou et al. 2020]. Systems like SAM Learning and Intelligent Tutoring System (ITS) require students to create accounts, often granting access to emails and other unidentified data. The data processing practices involve storing and analyzing this information to generate reports, track academic progress, and ensure record accuracy [Mackenzie]. This processing serves both administrative and educational functions, facilitating student transfers and performance assessments. However, without clear guidelines and transparency, these practices raise concerns about compliance with GDPR/LGPD and the ethical handling of student information.

5. CONCLUSIONS AND FUTURE WORK

This research highlights critical gaps in data protection within educational institutions, particularly the lack of training and awareness. Many students and teachers are unfamiliar with their rights regarding data security, emphasizing the need for educational initiatives. Additionally, a growing distrust in data handling practices underscores the urgency of implementing more transparent and ethical procedures. The study also reveals a lack of research on how LGPD is applied in education, with only six articles meeting the inclusion criteria.

Future research should explore institutional challenges in regulatory compliance, develop technological solutions for secure data management, and analyze the long-term impact of privacy policies on trust and academic experiences. Expanding studies across different educational levels and diverse stakeholder profiles will further enhance understanding and promote safer data-handling practices.

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