



Enhancing audit students' cognitive skills through website-based learning: Evidence from an experimental study in Indonesia

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Abstract This study examines the impact of digitalization on the cognitive skills of accounting students in auditing, with a focus on the implementation of website-based learning in audit practicums. Motivated by the low number of auditors in Indonesia and limited technological integration in audit education, this research introduces a website-based audit learning model designed to enhance students' understanding of audit processes and working papers. Using an experimental method, 78 students enrolled in the Auditing II course at a leading university in East Java, Indonesia, were divided into two groups: a control group and an experimental group. To minimize potential sample bias, a single-blind procedure is applied, ensuring that students were not informed of the specific research condition assigned to their class. The experimental class utilized a website-based application to complete sales and billing cycle audits, while the control class followed conventional learning methods. Data were analyzed using paired and independent sample t-test to assess differences in pre-test and post-test performance. The results reveal that students in the experimental class experienced a significant increase in cognitive skill's scores from an average of 50.69 to 82.12 compared to the control group, which showed minimal improvement. These findings confirm that website-based audit learning promotes higher levels of learning independence, collaboration, and active participation, resulting in superior academic performance. Future studies should consider expanding the research setting by involving multiple institutions and diverse students to enhance the generalizability, examining the effectiveness of audit software across various pervasive risk-based audit, and encouraged to control for individual-level factors, including student' prior digital competence, learning motivation, and technology acceptance.

Keywords: audit education, digitalization, accounting students, sales billing audits

1. Introduction

The government has regulated the auditor profession by issuing Law No.5 of 2011 concerning the auditing profession. This law expands opportunities to become an auditor beyond accounting graduates, allowing candidates from all academic disciplines to pass the auditor certification exam (Oktaviani et al., 2020). However, to date, the number of auditors in Indonesia has not increased significantly (Iftinan & Fachriyah, 2018; Oktaviani et al., 2020), and this low number corresponds directly to the low interest among accounting students in becoming auditors (Asyrafil et al., 2021; Harahap & Munthe, 2021; Iftinan & Fachriyah, 2018; Vareza & Susilowati, 2021). Even though auditing is one of the main competencies in the accounting department (Suharyono, 2021). One of the factors that causes students to have a low interest in becoming auditors is their limited understanding and knowledge about auditors and audit topics (Harahap & Munthe, 2021; Suharyono, 2021; Sundari & Sukanti, 2016). Each university has its own curriculum about auditing; however, these curricula generally contain audit theory and audit practicums. Audit theory serves to explain general theories about auditing and the audit process, while audit practicums bring students closer to the practice of conducting audits (Sadikin, 2021).

Practicum courses for auditing are emphasized in this research because they are crucial for accounting students to gain practical experience in the auditing field (Chiang et al., 2021; Wibowo & Irianto, 2018). However, the importance of these courses is not balanced by the use of modules that are appropriate and adaptive to technological developments (Diaz, 2016; Felski, 2023). The modules used in practicum courses are still manual, both in the work process and in the preparation of supporting documents for audit working papers (Suharyono, 2021). In fact, in the world of work, auditors are required to understand much software that can help the audit process, for example, Audit Tool Linked Archive System (ATLAS) (Prajananto, 2020), Audit Command Language (Sadikin, 2021), and Excel Macro Language-Based Application Program (Saleh, 2021).



However, these three applications still have several shortcomings; for example, the complexity of the operationalization process, substantive testing that is not yet comprehensive, and applications that cannot be accessed from many places by many people because they are not yet based on an internet network.

The number of internet users in Indonesia is 54.68% of the total population (Zahwa & Syafi'i, 2022). Universities must accommodate this data by making the internet a learning medium. Internet-based learning can improve the quality of education (Akbar et al., 2020; Listya, 2021; Lubis et al., 2021; Situmeang et al., 2021). An example of internet-based learning is a website or web-based learning (WBL). WBL is more interesting, interactive, and easy to apply because it does not require a complicated programming language (Al-Hashimy et al., 2023; Chatwattana & Nilsook, 2017; Putri & Anggapuspa, 2022). Other benefits of using websites are time efficiency (Anastasia et al., 2015; Lam et al., 2023), a more straightforward learning process (Al-Hashimy, 2023; Chatwattana, 2017), and increased understanding (Diaz, 2016; Yang et al., 2022). The implementation of WBL includes online discussion forums, delivery of material, and online assignments (Chatwattana, 2017). Therefore, this research aims to conduct empirical testing on the impact of using website-based learning to improve students' cognitive abilities in audit practicum learning.

Website-based learning can address several conventional learning problems (Akbar, 2020). The ease of internet access in website-based learning can stimulate students' curiosity through testing menus in independent learning, which ultimately has an impact on increasing student learning scores (Akbar, 2020). Apart from that, website-based learning also encourages interaction and cooperation among students, as some topics require group discussions and collaboration. This kind of expertise enables students to develop significantly better multimedia and collaboration skills compared to those in classes with traditional face-to-face learning (Chatwattana, 2017). These two skills ultimately result in students in classes that utilize website-based technology achieving significantly higher scores than those in classes that do not (Akbar, 2020; Chatwattana, 2017).

This study fills a gap in the research regarding the integration of information technology in audit practicum learning. In fact, the development of website-based applications for learning about auditing can simplify the process of creating audit working papers and providing companies with audit opinions. This research is crucial for bridging the gap between the world of education and the real world (Lee et al., 2022) and for equipping students to be responsive to changes that occur (Ebad, 2020).

2. Literature Review

2.1. Technology-Based Audit Learning

Technological developments have a significant impact on the entire audit process, particularly in terms of the use of hardware, software, and networks (Supriadi et al., 2019). Higher education needs to respond to these impacts on audit learning in a way that not only focuses on basic competencies but also on skills in using technology to increase the efficiency and effectiveness of audit learning (Felski, 2023). The expected information technology skills include the ability to use a set of computer applications ranging from acquisition, processing, and storage to communicating results (Lam et al., 2023). One of the uses of technology in the audit process is the utilization of software to facilitate various aspects of the audit, including pre-engagement analysis, risk assessment, risk response, and completion and reporting (Prajanto, 2020). Similarly, other research indicates that the use of audit software facilitates the processing of risk assessment, execution, documentation, completion, and analysis of alternative possibilities after the audit is completed (Sadikin, 2021).

The use of software in audit practicum learning has not been widely researched due to the limited access to and understanding of the software among teaching staff. Prajanto (2020) states that the ATLAS application used in learning enables students to engage more closely with the real-world practice of the auditing process. Apart from improving technical accounting skills, students also benefit in several ways from the learning process; for example, by sharpening their sensitivity to seek more comprehensive audit evidence and improving teamwork skills through collaborative assignments (Prajanto, 2020). Similar to ATLAS, the use of ACL in audit practicum learning has also been shown to increase student understanding (Sadikin, 2021). However, these two applications face a crucial obstacle: the lecturer cannot directly examine the students' work.

2.2. Improving Student Cognitive Abilities with Website-Based Technology

Technological developments require more active and student-focused learning (Hood, 2018; Listya, 2021; Wibowo et al., 2023). Several studies show that technology-based learning can improve students' cognitive abilities due to increased learning independence (Akbar et al., 2020; Anugrah et al., 2022; Rufaidah et al., 2021), collaboration and multimedia skills (Cebrián-de-la-Serna et al., 2021; Chatwattana & Nilsook, 2017), and active participation of students in learning (Hood, 2018; Listya, 2021). Student learning independence results from the ease with which students can access menus on the website, as they usually do on other platforms (Akbar, 2020). Students can reopen materials on the website and even repeat assignments whose grades were not satisfactory (Akbar, 2020). Website-based learning can also enhance students' cognitive abilities due to the demands of collaboration and multimedia skills (Cebrián-de-la-Serna, 2021; Chatwattana, 2017).

Website-based learning must at least provide menus for students and lecturers whose operations are separate. The student menu will likely feature several components, including learning descriptions, learning objectives, materials, questions, and discussions, which can be utilized when students encounter difficulties in learning (Chatwattana, 2017). These menus make it easier for students to help each other when they encounter difficulties in learning and familiarise them with other multimedia resources. These menus also encourage students to find solutions independently when they encounter difficulties operating the software (Listya, 2021; Wibowo et al., 2023). These three skills enable students to utilize all their senses to complete tasks, thereby improving their cognitive abilities.

2.3. Hypothesis Development

Auditors work in a profession that requires high technical expertise and proficiency. This expertise is important because the audit process is very long and systematic, starting from creating audit plans and methods, determining risk and materiality, determining the size of samples and audit evidence, testing controls, implementing analytical procedures for all accounts or for individual accounts, substantive testing, and completing the audit (Suharyono, 2021). Technology can simplify the audit process by reducing inspection time and improving the quality of audit work (Sadikin, 2021). This convenience arises because technology in audit examinations can be utilized to perform data treatment (Sunarmin & Junaidi, 2022) and data analysis (Felski, 2023; Huang et al., 2022; Lee et al., 2022).

Students, as future auditor candidates, need to be familiar with technology to make it easier for them to adapt to the world of work (Yang, 2022). The technology used in this research is a website-based audit practicum learning for the sales and billing cycle (Rahman et al., 2024). This cycle was chosen because it impacts many accounts in the financial statements, and its value is often used as a basis for determining the materiality of audit findings. The main menus on this website include permanent file storage, cases accessible to students, confirmation of receivables, working papers for verifying receivables and sales, as well as assignment submission links (Rahman et al., 2024). This website-based application is easier for students to learn and use because it utilizes an Excel macro base, similar to that used in the Audit Tool Linked Archive System (ATLAS) (Prajanto, 2020). The ease of operating the software can increase student learning independence. Several studies have shown that technology can foster student learning independence by solving cases, which has an impact on increasing students' cognitive abilities (Chatwattana, 2017; Diaz, 2016; Lubis, 2021). Therefore, the hypothesis in this study is presented as follows.

H1: Students who analyse cases using a website show higher cognitive assessment development than students who analyse cases manually

3. Research Methods

This research employs an experimental method, involving the solution of cases before and after learning with an auditing website. The research was conducted on 78 students enrolled in the Auditing course at one of the top universities in East Java. The Auditing II course at this university differs from the equivalent courses at several other universities, which separate the audit theory part from the practicum. The Auditing II course is a combination of audit theory courses before the mid-semester exam and audit practicum after it.

The 78 students were divided into two classes, the experimental class and the control class in Table 1. Students registered for one of the available class schedules through a Google Form, based on timetable compatibility and capacity limitations. Subsequently, one class was designated as the experimental group and the other as the control group. A single blind procedure was applied, ensuring that students were not informed of the specific research condition assigned to their class to reduce sampling bias. The independent samples t test on pre-test scores (Table 2) indicated no statistically significant difference between the experimental ($M = 50.69$, $SD = 21.99$) and control ($M = 50.66$, $SD = 22.66$) groups, suggesting comparable baseline performance. In addition, a paired-sample t-test is employed to examine significant changes within the same subjects before and after the intervention, thereby controlling for inter-individual variability and enhancing the detection of treatment effects. This test requires normally distributed data, which indicates that the sample adequately represents a normal population and supports the validity and generalizability of the statistical findings.

In the control class, students engaged in learning according to the semester learning plan that had been determined at the beginning. In the experimental class, students participated in various learning activities, including the use of website-based applications to complete an audit of the sales and billing cycle. The experimental design employed in this research is based on the experimental model used in previous studies (Martinov-Bennie & Mladenovic, 2015; Prayudi & Martadinata, 2020).

Table 1 Experimental Design.

Experiment Group	Experiment Stage	
	Pre-Test	Post-Test
Experiment Class (with Technology)	1 (39 students)	2 (39 students)
Control Class (without Technology)	3 (39 students)	4 (39 students)

Classes were chosen voluntarily by students who filled out the Google form provided. The results yielded a sample of 78 (39 students in experiment class and 39 students in control class) in Table 1 students out of a total of 400 who were taking the auditing course. This number was also adjusted to accommodate the chosen implementation schedule, which would be held on Fridays for three consecutive weeks. This schedule coincided with the implementation of auditing learning in five classes, so only three classes could engage in the learning.

The three weeks were divided into three different activities. In the first meeting, students worked on pre-test questions related to the sales and billing audit cycle. The primary focus of this meeting was to gauge the students' shared understanding. The second meeting was the operationalization of the software in the experimental class and regular learning in the control class. The third meeting focused on the same questions as the pre-test to determine differences in students' levels of understanding. The assessment took the form of a test about working on audit case questions for the sales and billing cycle (Rahman et al., 2024). The work process took 120 minutes in the classroom. Activities were carried out at the ninth and eleventh meetings (pre-test and post-test) after students completed the material about the sales and billing cycle.

The cognitive assessment of audit related performance in the sales and billing cycle was based on six case-based questions that required students to complete key audit procedures. These tasks covered: (1) an internal control questionnaire, (2) account receivables confirmation, (3) cut off testing, (4) test of details, (5) accounts receivable working papers, and (6) sales working papers, all aligned with the course learning outcomes.

The items were adapted from existing practicum materials and refined through a content validation process conducted by two experts, one from senior auditing lecturer and one practicing auditor, who evaluated each task for relevance, clarity, and representativeness of the targeted competencies. Based on their feedback, minor revisions were made to the wording and scoring rubrics to enhance clarity and ensure that the tasks captured different levels of cognitive complexity within the audit process. Furthermore, the internal consistency reliability of the six-item instrument, calculated using Cronbach's alpha on the pre-test scores, was 0.775, 0.768, 0.815, 0.724, 0.773, and 0.823 indicating acceptable reliability for cognitive assessment instruments in higher education.

In the treatment class, students operationalize website-based audit software, which features several menus, including discussion, e-learning, and project management. On the "discuss menu", students can have discussions with lecturers and other students. On the e-learning menu, students can select the class they will take by clicking "View Course". On this menu, students will be presented with a chapter on the audit cycle, in which each student will work on a case. The audit cycle comprises stages that students must complete as they work on a case. Students can click "join course" to access materials and assignments. These menus comprise client information, including menu options that allow students to access client details, facilitating the casework process with detailed information about each client. The following information displayed is the "audit agreement", which consists of the sub-chapters of the assignment letter and audit engagement proposal that students must fill out and complete as a first step before carrying out the audit. The following information displayed is the "user identity"; students access this chapter to find out the client's organizational structure, a statement letter that students must complete and collect, the director's Taxpayer Identification Number, and also the director's Resident Identity Card, which is used to identify the owner of the company.

The following information displayed is the "audit procedure" which contains the data needed to carry out a client audit mechanism, which contains the company's permanent files, Company Taxpayer Identification Number, and Deed of Establishment, so that students know more detailed information about clients, accounts receivable and sales ledger, and company financial reports. The substantive test section is a chapter display that is useful for accessing evidence; it contains bank receipts, sales invoices, payment receipts, cash notes, and travel documents. There is also evidence of accounts receivable and sales ledgers, as well as accounts receivable subsidiary ledgers, which are used to verify transactions carried out by the company. The final part is the independent auditor's report, which is helpful because students can review the report from the previous year's auditors to see their opinions and other relevant information related to the company's financial reports.

The following section provides a menu display for accessing and viewing case matters from the company, as well as confirming receivables to verify their accuracy against the company's general ledger balance. The following section contains the audit working paper, which students can download to facilitate their work on the case. The last display is where assignments are collected, including proposal files, assignment letter files, statement letter files, receivable confirmation letters, and audit working paper files, which can be accessed via the Google Form collection link. The data collection instruments in this research include questions about the sales and billing cycle, specifically filling out the internal control questionnaire, confirming receivables, conducting cut-off tests, performing transaction tests, completing accounts receivable working papers, and completing sales working papers (Rahman et al., 2024). In general, there are six questions that students must address, varying in difficulty.

The first question is the Internal Control Questionnaire (ICQ). At this stage, students are asked to understand the company's internal controls, which play a role in determining the level of materiality, risk, and audit evidence required. The second assessment is the confirmation of receivables. In this question, students are asked to count the number of confirmations returned, the type of confirmation, and the next steps for the confirmation results. This question helps develop students' understanding of alternative procedures that must be carried out when they do not receive a reply to the

confirmation sent. The third question that students work on is the cut-off test. This test, conducted by students at this stage, examines payments made after the balance sheet date. The cut-off test on sales accounts is carried out by checking the important information provided in the question.

The fourth question that students worked on was a transaction test. At this stage, students learned to apply the vouching process and hone their accuracy in comparing the required documents. The fifth question required the accounts receivable worksheet to be filled out. At this stage, students learned to lay out their findings in a supporting schedule and a top schedule. The final question in this research involved filling out the sales worksheet. This stage was similar to working on the audit working papers for accounts receivable, but with fewer account details, as only accounts directly involved in sales were sales returns and discounts.

The hypothesis testing in this research was conducted using a paired sample t-test to determine the differences in students' cognitive abilities between the experimental class before and after treatment, as well as between the control class and the experimental class. Before testing the hypothesis (H1), the researchers tested normality using the Kolmogorov-Smirnov test and the homogeneity of variance using Levine's test. The criteria for accepting the hypothesis in this research were:

There was no difference in the ability to conduct pre-test audits during the sales and billing cycle between the experimental and control classes. This test was conducted to ensure that the basic audit skills of students in the two classes were equivalent.

There was a difference in the ability to conduct pre-test and post-test audits during the sales and billing cycle between the experimental and control classes. This test was conducted to ensure that the audit skills of students in the two classes were different with the treatment.

4. Results

The results of the descriptive analysis indicate that the average student score in the experimental class and the control class were the same, specifically 50.69 in the experimental class and 50.66 in the control class. These results indicate that, prior to the operationalization of the audit software, the two classes had virtually identical average scores. This result means that the basic auditing abilities of both classes were the same, meaning that the selection of the experimental and control classes was truly random.

Table 2 also shows that the average student score in the experimental class increased significantly after the software was operationalized, namely from 50.69 to 82.12. Different results were obtained in the control class: the average student score experienced a minimal increase of 4.88 points, which could have been caused by students recalling their work on the pre-test questions. However, these two results indicate that the average student score was higher after using websites in audit learning compared to the class that used a conventional learning model.

Table 2 Descriptive Statistics of Sales and Billing Cycle Audit Values.

Experiment Group	Experiment Stage	
	Pre-Test	Post-Test
Experiment Class (with Technology)	M= 50.69	M=82.12
	SD= 21.99	SD=15.77
	n= 39	n=39
Control Class (without Technology)	M= 50.66	M= 55.54
	SD= 22.66	SD= 22.86
	n= 39	n= 39

Table 2 presents the descriptive statistics of the experimental and control classes during the pre-test and post-test stages of the sales and billing cycle audit learning process. The experimental class, which implemented technology-based learning, showed a substantial increase in the mean score from 50.69 (SD = 21.99) in the pre-test to 82.12 (SD = 15.77) in the post-test. In contrast, the control class, which did not utilize the technology-based approach, demonstrated only a marginal increase from 50.66 (SD = 22.66) to 55.54 (SD = 22.86).

The test results in Table 3 indicate that there is no significant difference in students' initial abilities between the control class and the experimental class, with a significance value of 0.99 based on the pre-test results. These results indicate that the two classes were chosen randomly and have the same basic understanding. Apart from that, Table 3 also shows a significant difference in students' cognitive abilities between the control class and the experimental class, with a p-value of 0.00.

The results of the independent sample t-test are displayed in Table 3. The pre-test comparison between the experimental and control groups (Panel A) revealed no statistically significant difference (sig. (2-tailed) = 0.99), confirming that both groups had similar baseline competencies prior to the intervention. However, the post-test comparison (Panel B) revealed a statistically significant difference between the two groups (Sig. (2-tailed) = 0.00), indicating substantial improvement in the experimental group after the application of technology-assisted learning.

Table 3 Independent Sample t-test between Experimental Class Stages.

Panel A: Pre-test of Control and Experiment Class			
	t-test for Equality of Means		
	Sig. (2-tailed)	Std. Dev	Value
Equal Variance Assumed	0.99	22.18	-0.00
Panel B: Post-test of Control and Experiment Class			
	t-test for Equality of Means		
	Sig. (2-tailed)	Std. Dev	Value
Equal Variance Assumed	0.00	23.65	-5.97

5. Discussion

These findings indicate that the integration of technology in audit learning significantly enhanced students' understanding and performance (Al-abdullatif & Gameil, 2021; Penote-Alipao & Galigao, 2025; Wu, 2024) in the sales and billing cycle topic. The lower standard deviation in the post-test of the experimental group also suggests more consistent performance among participants compared to the control group. These results indicate that operationalizing the software to work on audit and sales cycle cases has a positive impact on increasing student grades. The increase in scores occurs because the use of technology enables students to engage all their senses in completing assignments. Optimizing the senses in learning can increase student scores (Sternberg, 2016). These results align with several previous studies that demonstrate how the use of technology in learning can enhance student grades by promoting students' active participation in learning (Chatwattana, 2017; Diaz, 2016; Lubis, 2021). Audit software allows students to practice directly with simulated audit cases. This experiential approach helps students understand concepts more deeply compared to purely theoretical explanations.

These results demonstrate that the technology-based instructional model effectively increased students' comprehension and audit skills in the sales and billing cycle topic. The significant post-test difference suggests that the intervention had a positive impact on learning outcomes, consistent with prior studies that emphasize the role of digital tools in enhancing accounting education and audit simulations. The results of this research indicate that there are differences in the outcomes of pre-test and post-test casework between the experimental class and the control class. This difference in results was obtained because, in the experimental class, students used website-based learning, which allows students to learn independently through working on cases online (Al-abdullatif & Gameil, 2021; Penote-Alipao & Galigao, 2025; Wu, 2024). The website is also designed to allow students to study related material if they have difficulty learning. Apart from that, the website also enables students to gain a comprehensive understanding of the casework flow and the role of each case in resolving all cases. Students can visualize audit workflows such as account receivable confirmation process, sampling in test of details, and correction journal due to the audit process. Students' understanding of the entire case makes it easier for them to comprehend the questions, resulting in significantly better final results compared to the control class.

The findings support the hypothesis that technology integration enhances learning effectiveness in audit education. The improvement in the experimental class can be attributed to the interactive and practice-oriented nature of the technological tools used, which likely facilitated better conceptual understanding and engagement. Website-based learning makes learning more interesting, which increases student participation and focus during class. This result aligns with earlier research showing that digital learning environments improve students' analytical thinking, retention, and performance in accounting courses. The absence of a significant difference in pre-test scores suggests that the observed post-test improvements are a direct result of the intervention, rather than pre-existing differences in student ability. Furthermore, the narrowing of score variability (as reflected by the reduced SD in the experimental post-test) indicates a more uniform improvement across participants, suggesting that technology-based learning benefits both high and low performing students.

The results of this research are in line with previous research which shows that website-based learning can increase student independence (Akbar et al., 2020; Anugrah et al., 2022; Rufaidah et al., 2021), increase the ability to use multimedia and collaborate (Cebrián-de-la-Serna et al., 2021; Chatwattana & Nilsook, 2017), as well as increase active student participation (Diaz, 2016; Hood, 2018; Listya, 2021) which has an impact on increasing student scores. The results of this research also show that learning using technology that suits students' daily lives is more effective than conventional learning, which is centered on lecturers as the primary means of instruction in the classroom.

6. Conclusions

This research was conducted at one of the largest universities in East Java, Indonesia, and involved implementing a website-based audit learning program. This research was conducted with 78 Class 2 auditing students who had a sub-CPMK (course learning outcomes) score indicating the utilization of learning media. The two sub-CPMK outcomes are creating audit working papers and audit planning, as well as completing the sales and billing cycle. The results of this research indicate an increase in students' abilities following the implementation of website-based learning. These results support previous research, which demonstrates that the use of website-based learning media can increase students' understanding through their active involvement in learning. The implementation of technology in the audit learning process has significantly improved students'

performance, supporting the integration of digital learning strategies in accounting education and fostering a more profound understanding, as well as professional skill development. The study contributes to accounting education by providing empirical evidence of the benefits of technology-enhanced learning in audit settings. It suggests that digital learning models are effective in preparing future auditors to meet technological demands in the profession. Several methodological limitations should be acknowledged when interpreting the findings of this study. First, the study was conducted in a single institution, focusing on one audit topic (the sales and billing cycle) over a relatively short intervention period, which limits the generalisability of the results to other contexts, topics, or other audit cycles. Second, although pre-test and post-test scores were used to control for baseline differences, other factors such as students' prior familiarity with digital platforms, their motivation, or the novelty effect of the technology may have contributed to the observed improvements.

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7. Declarations

7.1. Ethical considerations

Students' cognitive performance in audit tasks adheres to ethical research principles. Participants are informed about the purposes and procedures of the study and provide informed consent prior to participation. Participation is voluntary, and participants may withdraw at any time. Confidentiality and anonymity are ensured, and the data collected are used solely for academic purposes. The study poses no harm to participants and is conducted with integrity and honesty.

7.2. Use of artificial intelligence (AI)

The authors declare that no generative artificial intelligence (AI) tools were used in the preparation, analysis, or writing of this manuscript.

7.3. Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

7.4. Funding

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