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DIGITAL TRANSFORMATION AND ELECTRONIC MEDIA INTEGRATION IN STUDENTS' ACADEMIC LEARNING, ENGAGEMENT, AND PERFORMANCE ACROSS UNIVERSITY LEVEL

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ABSTRACT

This study aims to examine the role of digital transformation and electronic media integration in students' academic learning, engagement, and performance across university level in the contemporary educational environment. Electronic media includes tools such as television, computers, mobile phones, and online learning platforms that support students in understanding academic concepts more effectively. The study applied a descriptive survey research design using a quantitative research approach, while a questionnaire was used as the main tool for data collection. Data were collected from students through survey method. Descriptive statistical techniques were used for data analysis. The findings of the study reveal that electronic media plays a significant role in enhancing students' learning process by improving understanding of difficult topics, increasing students' interest in studies, and providing quick and easy access to educational information and learning resources. The results further indicate that students perceive electronic media as a helpful and supportive learning tool that contributes positively to their academic performance. However, the study also found that excessive and uncontrolled use of electronic media may create distractions and negatively affect students' concentration on studies. Overall, the study concludes that digital transformation and electronic media integration have a positive impact on students' academic learning, engagement, and performance when used in a balanced and effective manner. The study recommends that teachers, parents, and educational institutions should properly guide students regarding the productive and responsible use of electronic media for educational purposes.

Keywords: *digital transformation, electronic media, academic learning, engagement, performance*

INTRODUCTION

In the 21st century, electronic media has become one of the most powerful forces influencing education, communication, and knowledge development, particularly at the university level. Digital transformation in education represents a

significant shift in educational systems through the integration of advanced technologies across all levels of education, from primary to tertiary institutions. This transformation replaces traditional teaching methods with innovative digital approaches aimed at creating more efficient, accessible, and personalized learning environments for students (Gapasin, 2026). In contemporary higher education, digital transformation has become a major force reshaping teaching practices, learning experiences, and institutional operations. Previous studies show that technology-driven tools enhance collaboration, student engagement, and learning outcomes. For instance, Anselmo et al. (2024) reported that mobile learning tools significantly improved students' interaction and comprehension in physics education, while Gapasin (2026) emphasized that digital transformation strengthens academic cohesion within higher education institutions, particularly in business and public administration. At the university level, electronic media plays a central role in improving access to information. Unlike traditional print resources, online platforms, digital journals, YouTube lectures, and research databases provide updated and diverse learning materials. Khan (2019) notes that students using electronic media experience better comprehension and academic performance due to multimedia support for visual and auditory learning styles. As a result, learning has become more flexible, personalized, and self-paced through interactive videos, simulations, podcasts, and digital textbooks. Electronic media also promotes active learning and student engagement. Unlike traditional teacher-centered approaches, digital tools encourage participation through discussion forums, online quizzes, educational apps, virtual classrooms, and collaborative activities. Ahmed and Malik (2018) found that electronic media increases student motivation by making learning more interactive and meaningful. Consequently, students develop stronger critical thinking and problem-solving skills essential for academic and professional success. At the University of Education, electronic media is now deeply integrated into teaching and learning processes. Learning Management Systems (LMS), Google Classroom, WhatsApp academic groups, online research portals, and digital presentations are widely used. These tools support structured lesson delivery, allow repeated revision, and enable communication beyond classroom boundaries, thereby improving academic support and teacher–student interaction. Moreover, electronic media fosters independent learning, a key objective of higher education. Students increasingly rely on online resources for assignments, presentations, and research work. According to Selwyn (2012), digital technologies empower learners by providing instant access to information and tools that support academic exploration. This promotes self-directed learning, making students more responsible, confident, and capable. The COVID-19 pandemic further highlighted the importance of electronic media in ensuring educational continuity. Universities globally shifted to online learning using video conferencing tools, recorded lectures, and online assessments. The University of Education also adopted these platforms to avoid disruption in learning. Anderson (2008) argues that online learning environments provide flexibility and accessibility, especially during crises. This experience confirmed that electronic media is now essential rather than supplementary in higher education. During the pandemic, the rapid adoption of e-learning also revealed key challenges and opportunities. Students' digital readiness and computer anxiety significantly influenced learning effectiveness. Factors such as gender, age, and internet usage affected engagement levels, with higher internet use improving preparedness for e-learning (Althubaiti et al., 2022). Digital transformation is closely linked with digital literacy, and institutions are now focusing on improving digital pedagogies (Farias-Gaytan et al., 2021). Furthermore, digitization is an ongoing process aimed at building human-centered educational systems, including digital curricula and innovative assessment methods (Yang, 2022). The concept of Education 4.0, involving AI and data analytics, is also emerging to improve learning outcomes (Shenkoya and Kim, 2023). However, digital exclusion remains a major challenge, especially for disadvantaged groups, highlighting

the need for inclusive digital policies (Qualter 2024).Despite its benefits, electronic media also presents several challenges. One major issue is distraction caused by social media and entertainment platforms, which reduces students' focus and increases procrastination. Khan (2019) found that excessive smartphone and social media use negatively affects academic performance. Another challenge is the digital divide, where unequal access to internet and devices limits learning opportunities. Selwyn (2012) highlights that while technology improves access, it also creates inequality, especially among rural and low-income students. At the University of Education, some students still face connectivity issues, affecting participation in online learning.

Additionally, the credibility of online information remains a concern. The internet contains both reliable and misleading content, making it difficult for students with low digital literacy to evaluate sources. Ahmed and Malik (2018) stress the importance of training students to critically assess online information to avoid academic inaccuracies and poor-quality research output. In conclusion, electronic media has transformed higher education by making learning more flexible, interactive, and accessible. It has become a core component of university education, supporting academic development and skill enhancement. However, its benefits must be balanced with challenges such as distraction, inequality, and information credibility issues. Guided by the perspectives of McLuhan (1964), Khan (2019), Ahmed & Malik (2018), Selwyn (2012), and Anderson (2008), this study explores the role of electronic media in student learning at the University of Education. The findings will help educators and administrators better understand student experiences, improve teaching strategies, and promote more effective and balanced use of electronic media in higher education.

Statements of the Problem

In the 21st century, digital transformation and electronic media integration have become essential in higher education, where universities widely use LMS platforms, online classrooms, social media, and digital resources to enhance teaching and learning (Gapasin, 2026). These technologies make learning more flexible, interactive, and accessible; however, their excessive use also creates challenges such as distraction, reduced concentration, poor time management, and unequal access to digital tools, and limited digital literacy among students (Khan, 2019; Selwyn, 2012; Ahmed & Malik, 2018). After the COVID-19 pandemic, dependence on electronic media increased further, affecting students' learning engagement and academic performance (Althubaiti et al., 2022). Therefore, this study aims to investigate the impact of digital transformation and electronic media integration on students' academic learning, engagement, and performance at the university level.

Research Objectives

1. To examine how electronic media influences university students' learning, including understanding, interest, grades, study habits, and time management.
2. To identify the challenges students, face while using electronic media, such as distractions, stress, overuse, technical issues, accuracy of information, and dependence on technology.

Justification of the Study

This study is justified due to the rapid growth of digital transformation and electronic media integration in higher education institutions, where students increasingly rely on digital tools such as LMS platforms, online learning systems, social media, mobile applications, and multimedia resources for academic learning and communication (Gapasin, 2026; Selwyn, 2012). The study is educationally significant because it highlights both the positive and negative effects of electronic media on students' academic learning, engagement, and performance at the university level. It provides understanding regarding how electronic media improves learning motivation, understanding of difficult concepts, classroom participation, and access to educational information, while also identifying challenges such as distraction, excessive screen time, poor time management, and difficulties in evaluating the reliability of online information (Khan, 2019;

Ahmed & Malik, 2018). Furthermore, this study contributes to the limited literature available in the Pakistani higher education context and may help teachers, educational institutions, and policymakers develop effective digital learning strategies, promote digital literacy, and encourage the balanced and responsible use of electronic media in university education.

Significance of the study

This study is significant for students, teachers, educational institutions, policymakers, and future researchers. Students can benefit from this study by understanding the positive and negative effects of electronic media on their academic learning, engagement, and performance. Teachers may use the findings to promote the effective and balanced integration of digital technologies in teaching and learning processes, thereby improving students' motivation and participation (Ahmed & Malik, 2018). Educational institutions can use the results to develop better digital learning environments, provide reliable technological resources, and improve online teaching strategies (Gapasin, 2026). The study is also important for policymakers and curriculum developers because it highlights the need for digital literacy, equal access to technology, and effective educational policies related to electronic media use in higher education (Selwyn, 2012). Furthermore, this research may serve as a useful reference for future researchers interested in digital transformation, electronic media integration, and higher education studies.

RESEARCH METHODOLOGY

Research Design.

In this study quantitative research approach was used. A survey research design was used to conduct this research. The survey method is the process of asking individuals questions about your research to collect data for a study. In survey, "Cross sectional survey design" (a type of survey) was used in this research to collect data from the participants. Cross-sectional studies may gather information on one or more characteristics, occur at a single point in time, don't alter research variables, and may reveal relational links (Carroll and Roundy, 2023). The population of this study consists of 2120 students of University of Education, Attock Campus. For sampling purposes, random sampling techniques were used. Four hundred students were selected as a sample. A subset of people from a broader population is called a sample. Sampling is the process of choosing the group from which you will genuinely get data for your study. Inferences about population are drawn from samples (McCombes, 2023).

A subset of a statistical population in which every member has an equal chance of being selected is known as a simple random sample. The goal of a basic random sample is to represent a group objectively (HAYES, 2024).

Instrument or Tool Development.

In this research, self-developed questionnaire was used to collect data from the participants. A questionnaire is a set of inquiries or items designed to collect information from participants regarding their beliefs, experiences, or viewpoints (Bhandari, 2023).

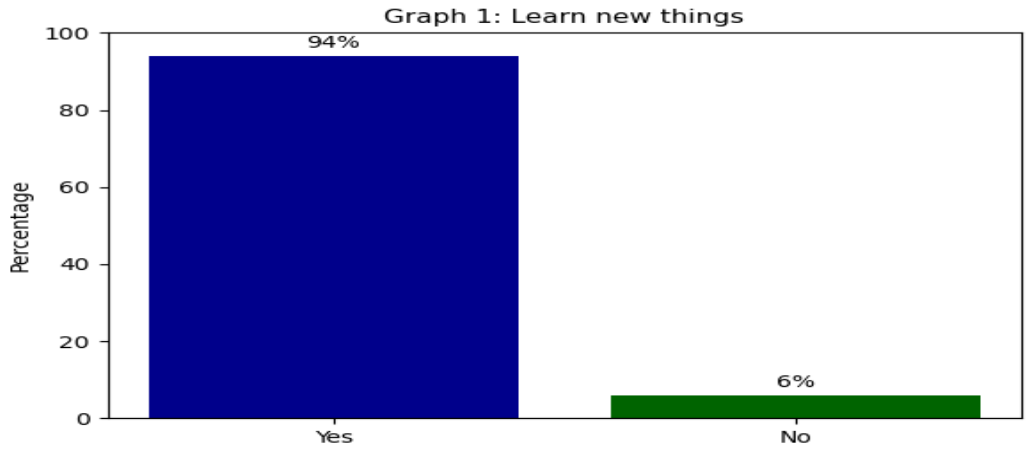
At first, 25 questions were made for this study. Respectable Supervisor checked the questionnaire, there were some duplicate questions, and some were irrelevant questions. Respectable Supervisor removed the irrelevant and duplicate questions. After refinement, 14 questions were left in questionnaire. Questionnaire was approved by one English professor and Supervisor. After taking permission from the head of department and from teacher the topic of this research was defined for the participants of the research. In the end, questionnaire was administrated to participants, to collect data from them. In this study, Survey research design was used to collect data from the participants. Data was personally collected from the participants. Some participants were not supportive of providing information. It takes 6 days to collect data from the participants.

DATA ANALYSIS AND INTERPRETATION

In this section, the analysis and interpretation of data regarding the research on "Digital Transformation and Electronic Media Integration

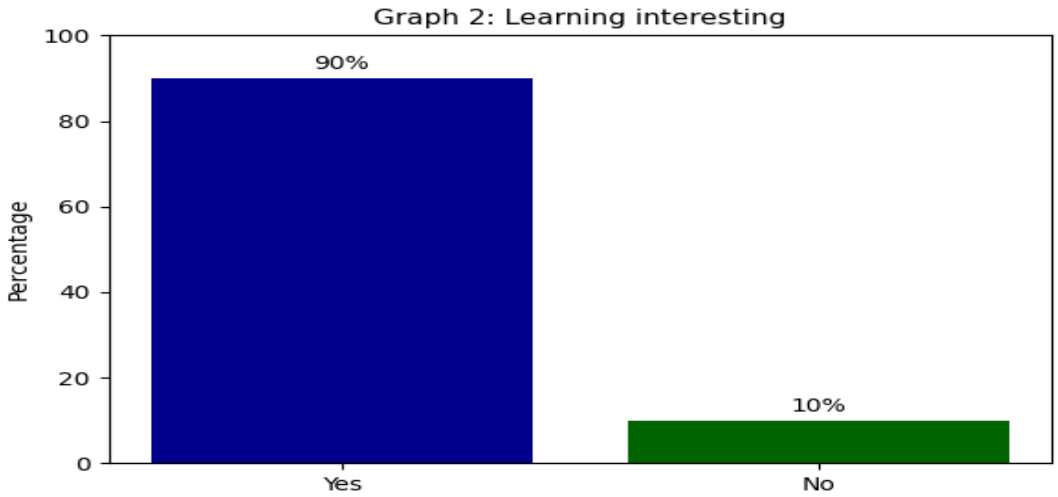
in Students' Academic Learning, Engagement, and Performance across Universities level" are presented and graphically interpreted.

1. Electronic media helps me to learn new things.



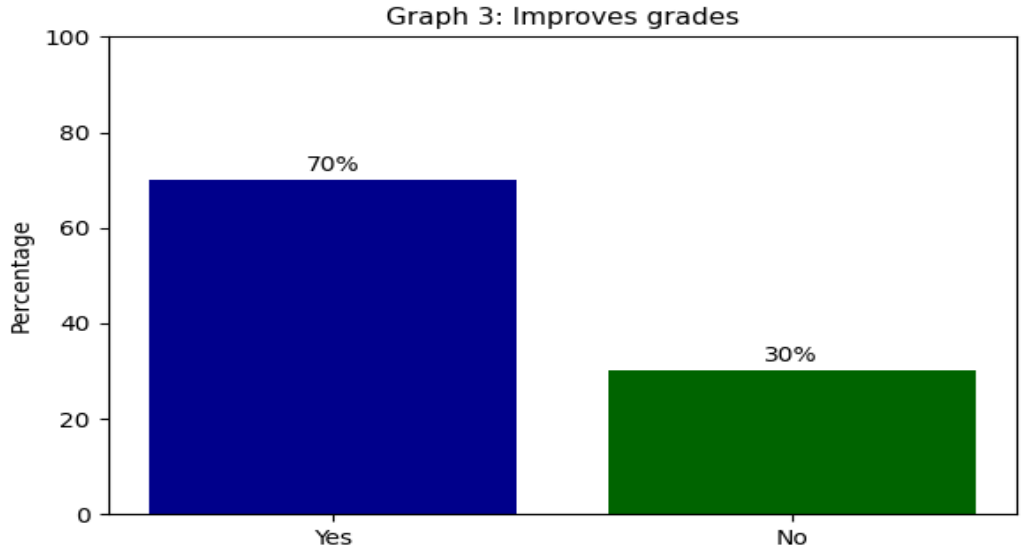
Graph shows that 94% respond was in favor of the statement that "Electronic media helps me to learn new things".

2. **Electronic media makes learning more interesting for me.**



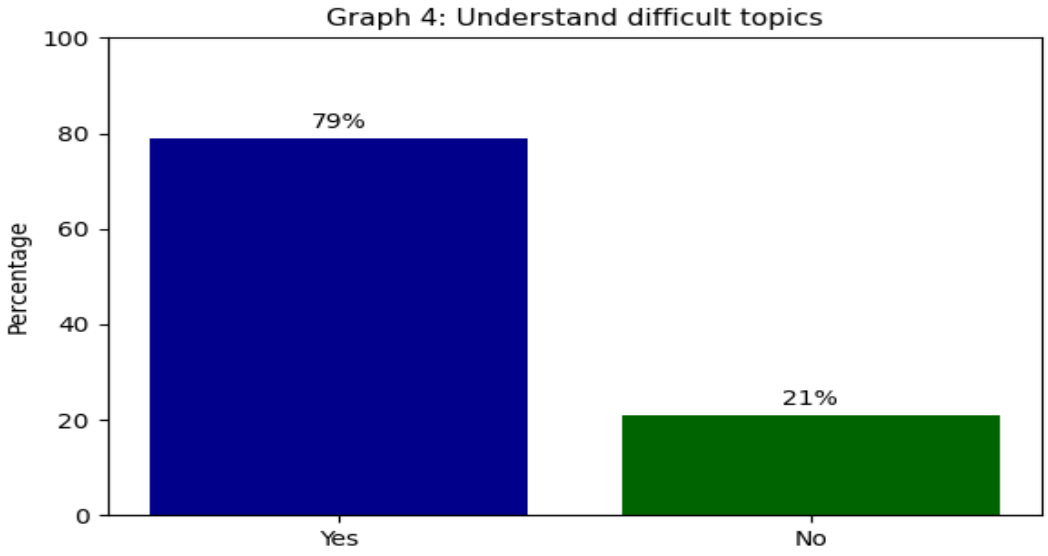
Graph shows that 90% respond was in favor of the statement that "Electronic media makes learning more interesting for me**".**

3. Electronic media improves my grades.



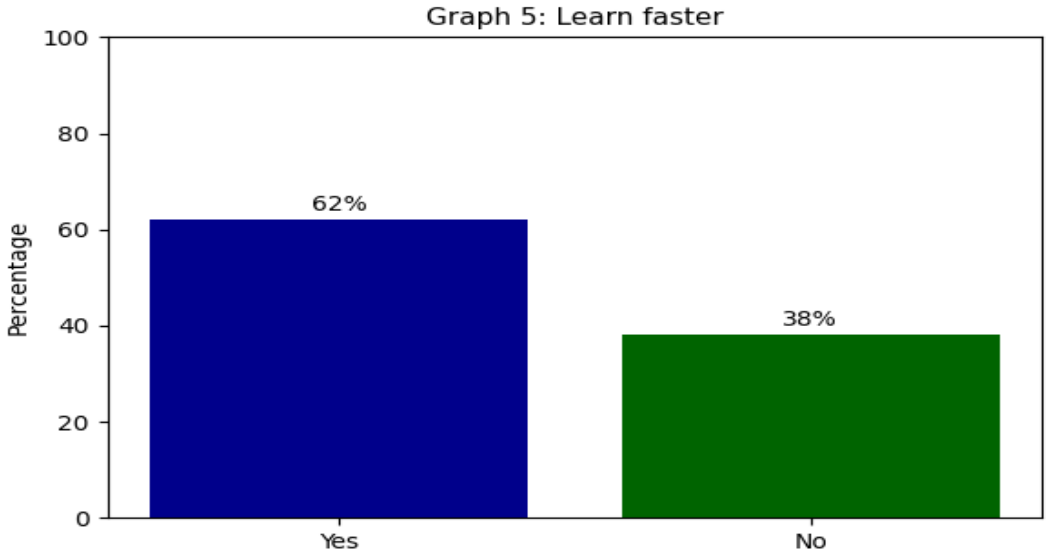
Graph shows that 70% respond was in favor of the statement that "Electronic media improves my grades".

4. Electronic media helps me to understand difficult topics.



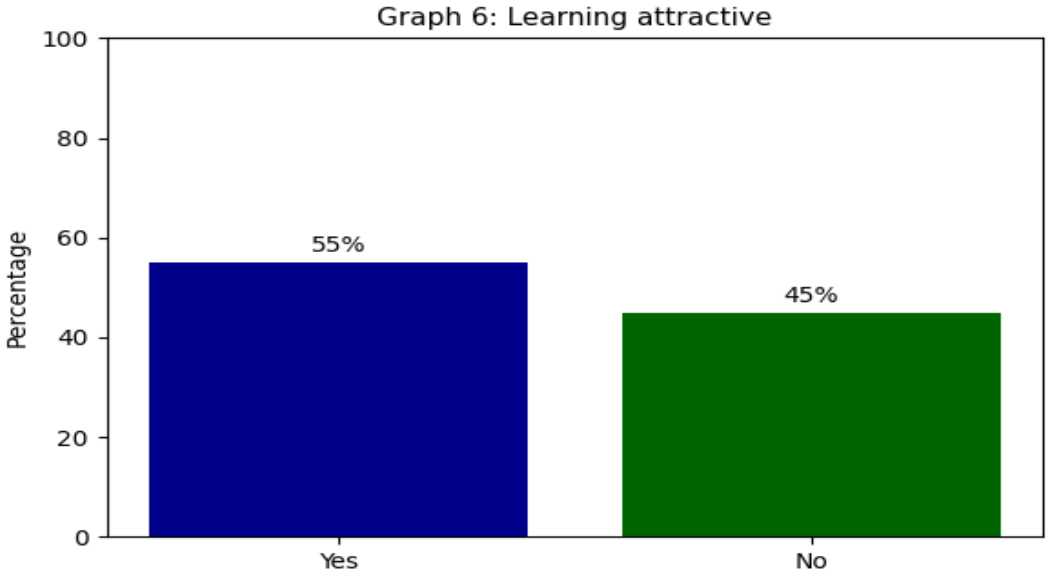
Graph shows that 79% respond was in favor of the statement that “Electronic media helps me to understand difficult topics”.

5. I learn faster with electronic media.



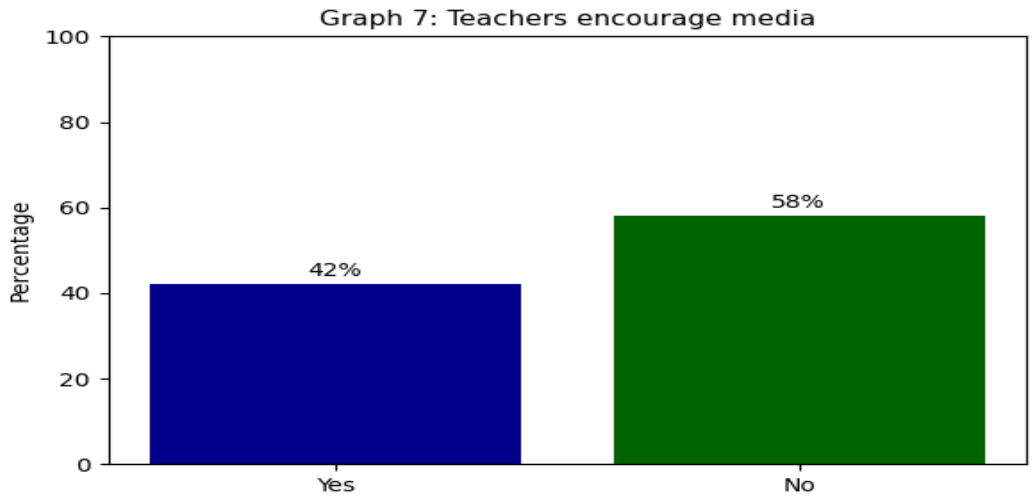
Graph shows that 62% respond was in favor of the statement that "I learn faster with electronic media."

6. It makes learning attractive.



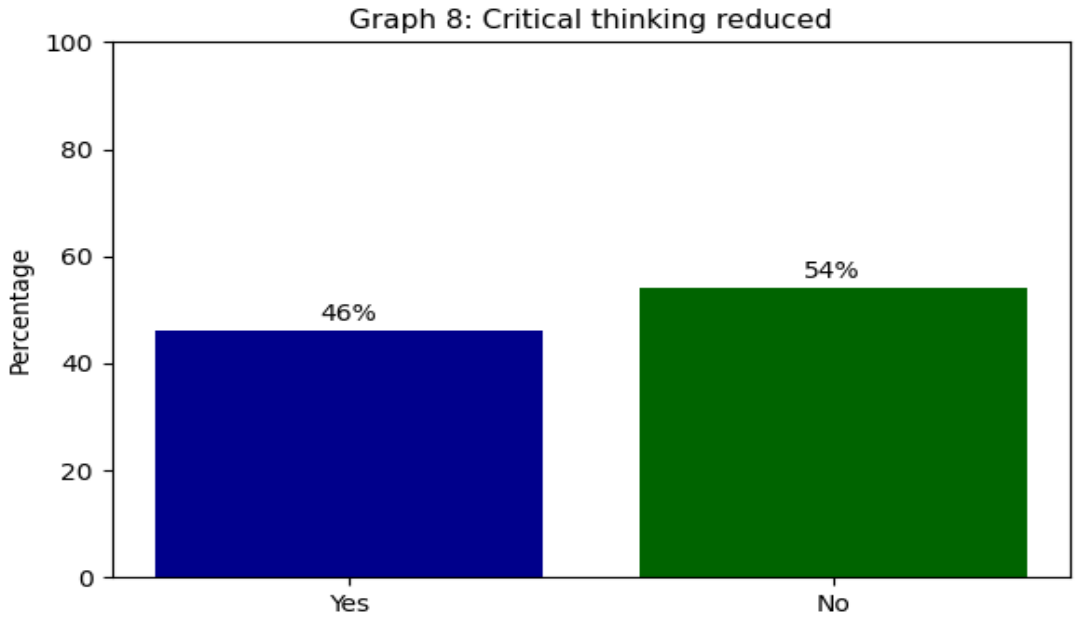
Graph shows that 55% respond was in favor of the statement that "It makes learning attractive."

7. Teachers encourage use electronic media.



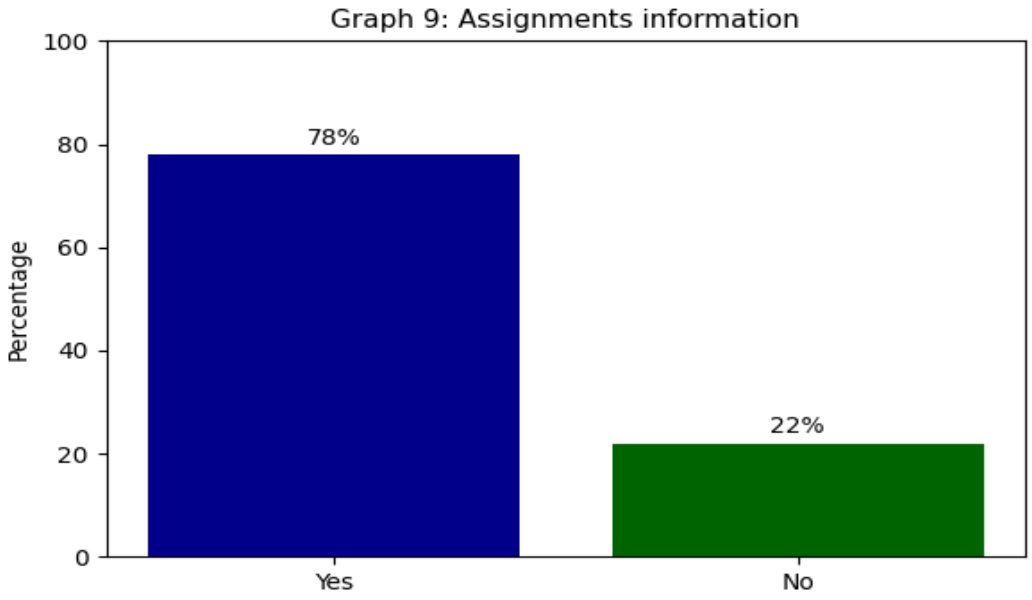
Graph shows that 42% respond was not in favor of the statement that "Teachers encourage use electronic media".

8. Electronic media reduces my critical thinking.



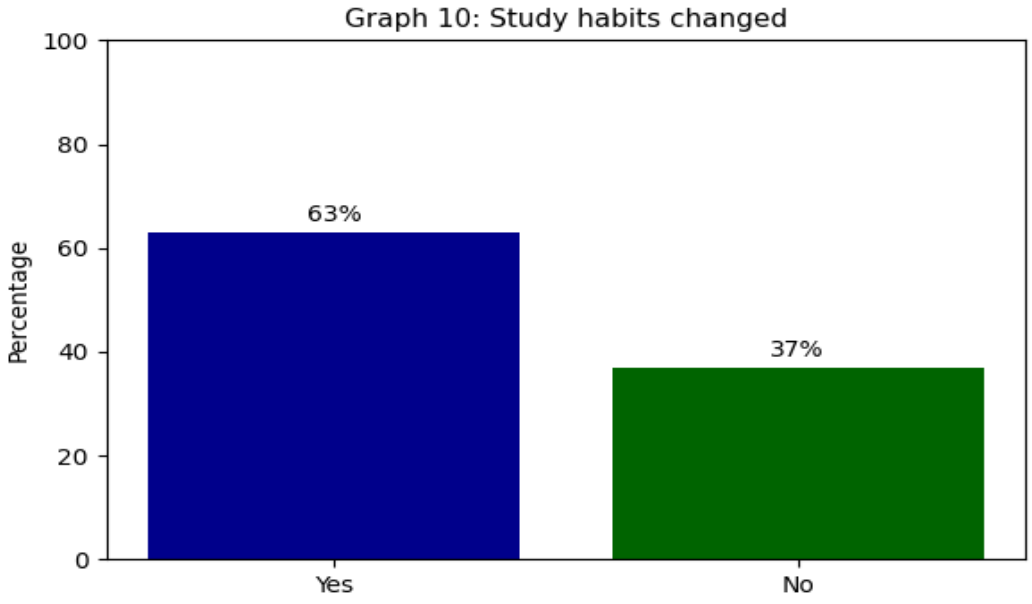
Graph shows that 46% respond was not in favor of the statement that "Electronic media reduce my critical thinking".

9. It helps me find information for assignments.



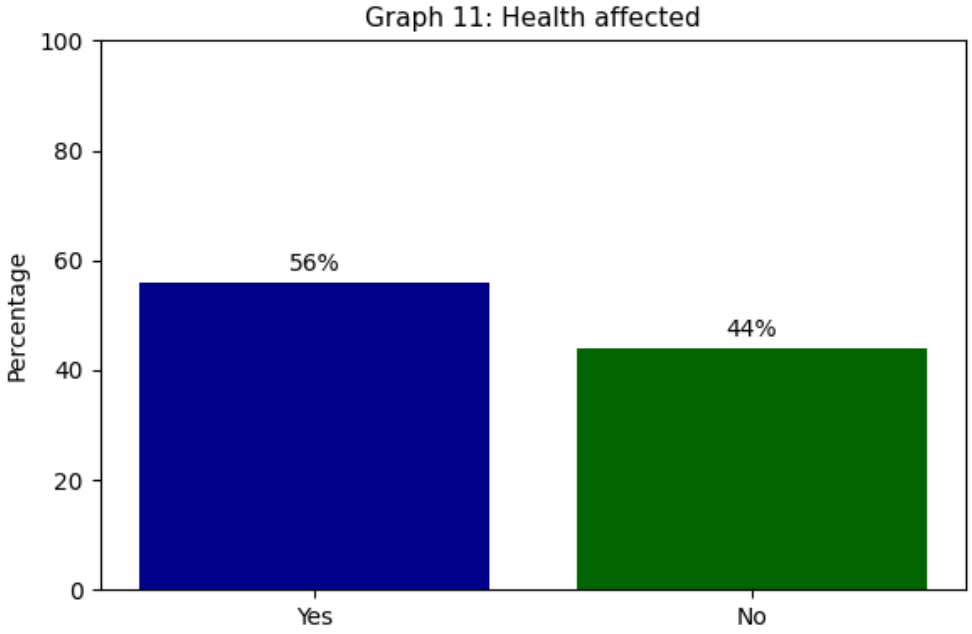
Graph shows that 78% respond was in favor of the statement that "It helps me find information for assignments".

10. Electronic media has changed my study habits.



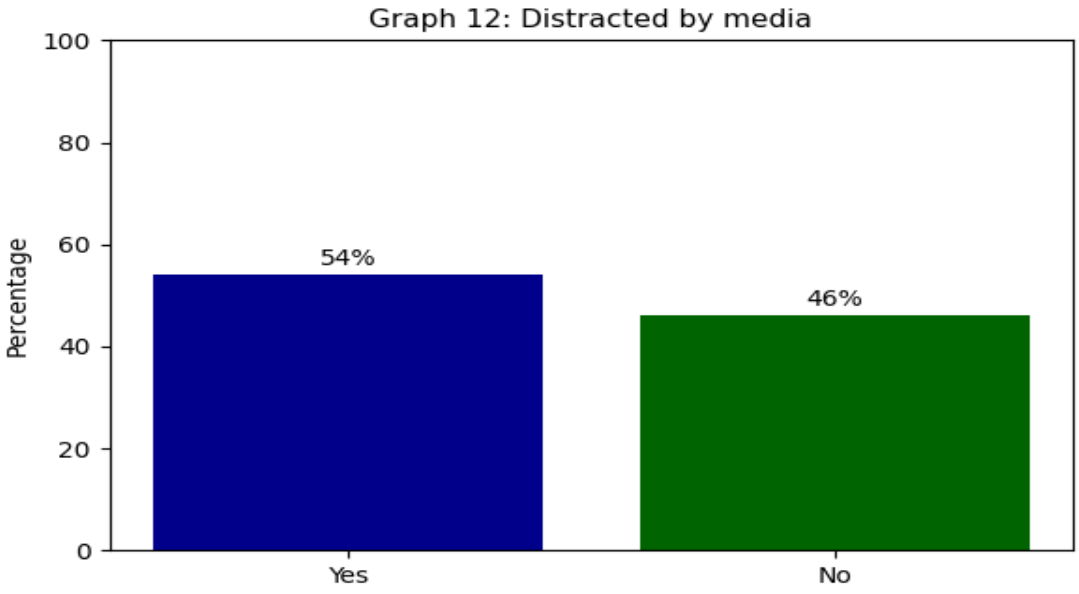
Graph shows that 63% respond was in favor of the statement that "Electronic media has changed my study habits".

11. Long use of electronic media affects my health.



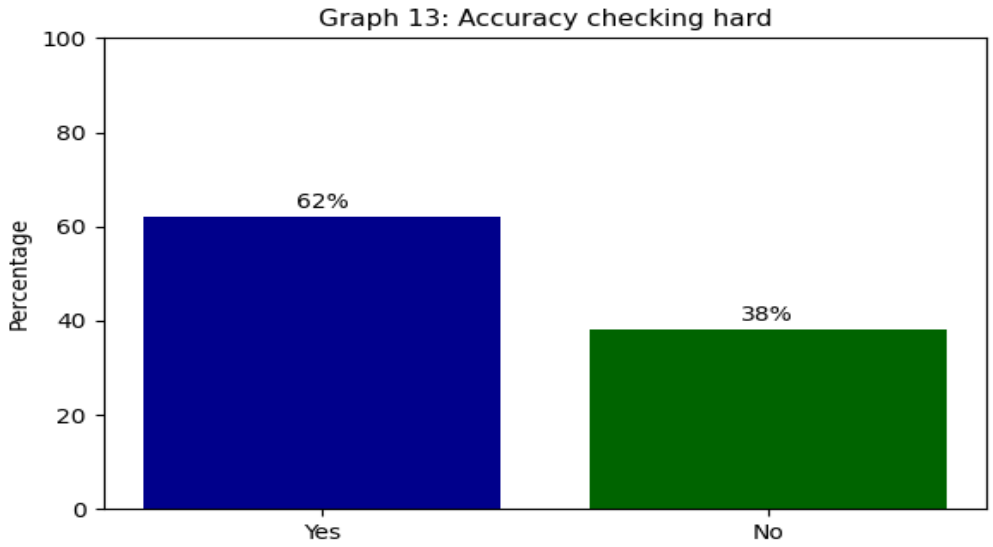
Graph shows that 56% respond was in favor of the statement that "Long use of electronic media affects my health".

12. I get destructed by non-educational media.



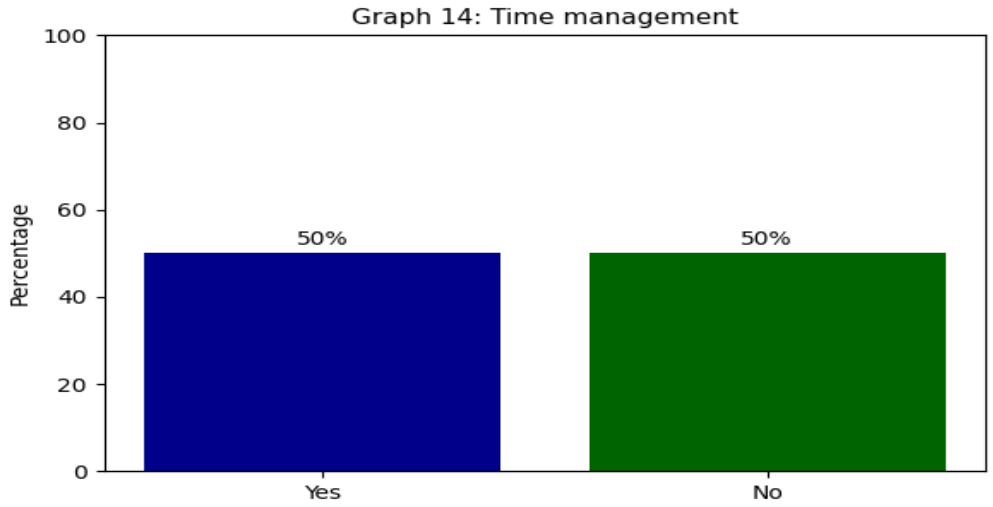
13. Graph shows that 54% respond was in favor of the statement that "I get destructed by non-educational media".

13. It is hard to check accuracy of online information.



Graph shows that 62% respond was in favor of the statement that "It is hard to check accuracy of online information".

14. I manage my time well while using electronic media.



Graph shows that 50% respond was in favor of the statement that "I manage my time well while using electronic media.

Discussion

Finding of the Research

The study revealed that digital transformation and electronic media integration have both positive and negative effects on students' academic learning, engagement, and performance at the university level.

The findings of the present study are consistent with previous research highlighting the important role of electronic media in improving teaching and learning processes at the university level. Earlier studies have reported that digital technologies enhance students' engagement, motivation, and academic performance through interactive and multimedia-based learning approaches (Zawacki-

Richter et al., 2019; UNESCO, 2021). Similarly, researchers have emphasized that electronic media supports flexible learning environments and helps students access information more efficiently, particularly in higher education settings (Qayyum et al., 2024; Ullah et al., 2025).The findings of the study indicate that electronic media plays a significant role in enhancing students' learning experiences at the university level. A large majority of students (94%) agreed that electronic media is highly effective for learning and helps them learn new things, reflecting its strong usefulness and acceptance among university students. Similarly, 90% of the respondents stated that digital media makes learning more interesting and motivating through the use of videos, graphics, and interactive content. In terms of academic achievement, 70% of students believed that their grades improved due to the use of electronic media, although 30% did not observe any improvement in their academic performance. Furthermore, 79% of students reported that electronic media helps them understand difficult and complex concepts more easily through visual and audio explanations. The study also revealed that 62% of students felt they learn faster with digital media, while 38% did not experience any improvement in learning speed.

The results further showed mixed perceptions regarding the attractiveness of learning through electronic media. About 55% of students considered digital learning more attractive, whereas 45% still preferred traditional learning methods. Teacher encouragement toward the use of electronic media was found to be comparatively low, as only 42% of respondents stated that their teachers promote the use of digital tools, while 58% reported a lack of encouragement from teachers. Concerning critical thinking skills, the responses were divided; 46% of students believed that electronic media reduces critical thinking abilities, whereas 54% disagreed, suggesting that electronic media does not have a strong negative impact overall. The majority of students (78%) reported using electronic media mainly for searching information and completing assignments or class-related tasks. In addition, 63% of respondents acknowledged that their study habits have shifted toward online notes, digital lectures, and mobile learning, although 37% indicated no significant change in their study patterns.

The study also identified several challenges associated with the use of electronic media. Health-related concerns were common, as 56% of students experienced eye strain, headaches, or fatigue due to prolonged screen time, while 44% did not report such issues. Distraction emerged as another major problem, with 54% of students admitting that they are often diverted by social media or entertainment applications during study time. Moreover, 62% of respondents found it difficult to determine the accuracy and reliability of online information, whereas only 38% did not face this challenge. Finally, the findings regarding time management were balanced but inconsistent, as 50% of students believed they managed their time effectively while using digital media, while the remaining 50% struggled with time management during digital learning activities.

Conclusion

The study concludes that electronic media plays a mostly positive and supportive role in university students' learning, as it helps them understand difficult topics, makes learning more interesting, and assists in completing assignments effectively. Many students feel it improves their academic performance and encourages faster learning, showing strong acceptance of digital tools. However, issues such as distractions from social media, health problems from long screen time, and difficulty checking the reliability of online information remain significant challenges. Teacher encouragement is also limited. Overall, electronic media is beneficial for student learning, but its impact can be improved through balanced use, better digital literacy, and stronger support from teachers.

Recommendations

1. Universities should encourage teachers to integrate electronic media into teaching through training and interactive digital tools.

2. Students should be guided to develop digital literacy skills so they can identify credible and accurate online information.
3. Awareness programs should be introduced to promote healthy screen-time habits and reduce issues like eye strain and fatigue.
4. Students should be advised to manage their time effectively and limit distractions from social media while studying.
5. Institutions should provide reliable digital resources, high-quality e-content, and better internet facilities to support effective learning.
6. Teachers should combine traditional methods with electronic media to create a balanced and engaging learning environment.

Ethical Consideration

It was considered that data collected in this research is used for academic purpose only and treated strictly confidentially. Participants' dignity was also considered.

REFERENCES

Ahmed, M., & Malik, A. (2018). Impact of electronic media on student motivation and learning engagement. *Journal of Education and Practice, 9*(12), 45–52.

Althubaiti, A., Almuaythir, S., & Alshammari, S. (2022). Students' digital readiness and computer anxiety in e-learning environments after COVID-19. *International Journal of Educational Technology in Higher Education, 19*(1), 1–15.

Anderson, T. (2008). *The theory and practice of online learning* (2nd ed.). Athabasca University Press.

Anselmo, J., Cruz, M., & Ramos, P. (2024). Mobile learning tools and students' engagement in physics education. *Journal of Educational Technology Research, 18*(2), 65–79.

Bhandari, P. (2023). Questionnaire design: Definition, examples, and types. *Scribbr Research Guide*. https://www.scribbr.com

Carroll, J., & Roundy, N. (2023). Cross-sectional survey design in educational research. *Research Methods Journal, 11*(3), 55–67.

Farias-Gaytan, S., Aguaded, I., & Ramirez-Montoya, M. (2021). Digital transformation and digital pedagogies in higher education. *Sustainability, 13*(21), 1–15.

Gapasin, D. (2026). Digital transformation in higher education and academic cohesion. *International Journal of Educational Development, 14*(1), 22–35.

HAYES, A. (2024). Simple random sample: Definition and examples. *Investopedia*. https://www.investopedia.com

Khan, M. (2019). Effects of electronic media on academic performance of university students. *International Journal of Educational Research, 15*(3), 112–125.

McCombes, S. (2023). Sampling methods in research methodology. *Scribbr Research Guide*. https://www.scribbr.com

McLuhan, M. (1964). *Understanding media: The extensions of man*. McGraw-Hill.

Qayyum, A., Khan, S., & Ali, R. (2024). Electronic media integration and student engagement in higher education. *Pakistan Journal of Educational Technology, 9*(2), 77–91.

Selwyn, N. (2012). *Education and technology: Key issues and debates*. Routledge.

Shenkoya, T., & Kim, J. (2023). Education 4.0, artificial intelligence, and data analytics in higher education. *Educational Sciences, 13*(4), 1–14.

Ullah, H., Rehman, A., & Tariq, M. (2025). Digital learning environments and academic performance among university students. *Journal of Higher Education Studies, 12*(1), 44–59.

UNESCO. (2021). *Digital learning and transformation in higher education*. UNESCO Publishing.

Yang, X. (2022). Human-centered digital transformation in education systems. *Education and Information Technologies, 27*(5), 6011–6025.

Zawacki-Richter, O., Bond, M., Marin, V., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. *International Journal of Educational Technology in Higher Education, 16*(39), 1–27