



The Role of Electronic Technology in Supporting Student Learning Activities in the Digital Era

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Abstract

This research looks into how digital tools help boost student learning at Sriwijaya State Polytechnic in today's tech-driven world. This study employed a quantitative descriptive research design using a survey method, involving 56 students who were asked to complete a questionnaire using varying frequency scales. The data were analyzed using frequencies and percentages of the questionnaire. Digital electronic technology is really helpful for students. They find it easier to find the materials they need for learning. They can also connect with their teachers and friends during the learning process, this helps them do better in school. Students like using media because it is flexible and fun, it makes learning more interesting the good thing about technology is that it helps make school activities more exciting and effective. So digital electronic technology is very important for making learning. It should be used more in schools because it helps students learn in a way. Digital electronic technology is good, for education. It will keep helping students in the future.

INTRODUCTION

The educational aspect has been influenced by the rapid development of technology in this digital era. Along with increasingly rapid technological advances, technology in education is considered a crucial force in transformative learning (Kalyani, 2024). The integration of various forms of digital media with the help of computers can result in the enhancement of creativity by developing a new type of media. This evolution of technology provides a new opportunity for students to learn in a more interactive and interesting manner, which enables them to comprehend and master the topic more efficiently (Arisanti, 2025). Modern technology has a significant impact on the educational sector because it facilitates the process of finding information and makes the learning process more efficient. This evolution of technology enables students to access educational materials at any given time and place with the help of online learning and multimedia facilities (Raja & Nagasubramani, 2018). The evolution of information technology has played a significant role in the dissemination of knowledge and the improvement of the educational sector. Various educational tools with the help of technology, including smartphones and digital classrooms, have revolutionized the teaching and learning methodologies in the educational sector (Haleem et al., 2022). Student engagement is viewed as a vital factor in the improvement of educational outcomes, and digital tools can aid in this regard by providing interesting and collaborative learning opportunities (Adnan et al., 2025).

In the world of education, the development of digital technology has brought about many significant changes, particularly in student learning activities at universities. The use of electronic devices such as computers and mobile phones can facilitate student access to information. Several studies have shown that the use of digital technology in learning can improve the quality of the learning process and expand students' access to various learning resources (Sholihah et al., 2024). Digital technology can really help students get more involved in learning. When students use media and technology-based learning systems they can

understand the course material better and improve their critical thinking skills and learning outcomes (Arisanti, 2025). Other research also shows that learning using technology has a positive impact on student participation and academic achievement in today's digital era (Kusumo et al., 2024). However, most previous studies have focused more on the use of digital technologies and learning platforms in general, such as e-learning and distance learning systems. Research on the use of technology in education also frequently focuses on students' digital competencies in using online learning systems (Novrianti et al.). Some studies show that teachers use methods with digital technology to get students more involved in class (Arifin & Mustofa, 2025). There is still a problem though. We do not have research on how electronic technology can really help students learn in a world where everything is digital. Electronic technology is a part of the digital age and we need to know more about its role, in supporting student learning. Therefore, this study was conducted to analyze how electronic technology can support student learning activities and contribute to the effectiveness of the learning process in higher education.

The purpose of this study is to further explore the role of electronic technology in supporting student learning activities in the digital age. There has been a lot of research on using technology in education. Most of these studies look at how technology affects how interested students are in their school work and how it can help students with their daily school activities. This study wants to look closer at how digital technology can make learning for students in the world we live in today with all the digital technology. The goal is to understand how electronic technology can make students learning experiences better in today's age, with digital technology.

LITERATURE REVIEW

Digital technology to support the teaching and learning process leads to the use of electronic tools, systems, and resources. In higher education, transforming classical learning into a more flexible and student-centered approach, digital

technology is a crucial component. Zawacki-Richter et al. (2019) to improve support systems for students, digital technology approaches, and artificial intelligence enable independent learning. The importance of digital environments in expanding digital era skills. The concept of education 4.0 enhances the learning experience through the use of digital learning media (González-Pérez & Ramírez-Montoya, 2022). Applying effective technology to education requires a more educational and competent knowledge approach, as explained in the concept (TPACK) (Voogt et al., 2013). Digital technology also facilitates communication, collaboration, and access to information, which are key factors in an advanced educational environment (Al-Rahmi et al., 2020). To improve the effectiveness of the entire learning process, it is necessary to use digital tools in education, which have been proven to support more flexible learning (Bond et al., 2020). Therefore, it is necessary to form a more advanced education to support creative teaching practices, digital technology plays the most fundamental role.

Various previous studies have examined the use of technology to support the learning process in higher education. Research compiled by Ritesh Chugh et al. (2023) shows that the use of technology in higher education, the use of Learning Management Systems (LMS) and digital tools is one application that can increase learning effectiveness and students can access learning materials easily. Interactions between students and lecturers become more flexible and with technological facilities, resulting in a more active learning process, both synchronously and asynchronously. Furthermore, research by Mohamed Amin Mekheimer (2025) concluded that the appropriate and wise use of technology can significantly improve the quality of student learning. The results of his study showed that students who learn with the help of technology tend to have a deeper mastery of the material and show a higher level of participation compared to students who learn traditionally, who have a lower level of participation. Similarly, a study by Yacoub Siyam et al. (2025) shows that the successful use of technology in learning depends not only on the availability of devices but also on the readiness of educators and policy-making for effective and efficient learning.

This research emphasizes the importance of developing digital competencies for educators so that technology can be optimally utilized to support the teaching and learning process.

Furthermore, research by Huma Akram et al. (2021) shows that the use of technology in learning, especially in the current digital era, has many positive impacts on student engagement and learning outcomes, but its use must be controlled to avoid negative impacts. Technology enables students to learn independently, access a variety of learning resources, and optimize interaction in the learning process.

METHODOLOGY

This study used a quantitative methodology with a survey to analyze the role of electronic technology in supporting student learning activities in the digital age. (Creswell, 2014) stated that quantitative research focuses on data collection and analysis of numerical data to explain phenomena and test relationships between variables. This approach allows researchers to obtain measurable data and analyze patterns related to the use of digital technology in learning activities.

Furthermore, a descriptive survey method was used in this study to collect data from respondents. According to Sugiyono (2018), the main instrument of the survey method for collecting sample data from the method subjects is a questionnaire. The questionnaire was developed using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure students' perspectives and behaviors in the use of electronic technology in learning. This method is appropriate for identifying students' perspectives and behaviors in using electronic technology for learning purposes.

The subjects of this study were students at Sriwijaya State Polytechnic. This research was conducted at the institution to examine the use of electronic technology to support student learning activities in higher education. A total of 50 students were selected as respondents using a purposive sampling method.

The subjects were selected based on certain criteria, one of which was students actively using electronic technology such as smartphones, laptops, and digital learning platforms in their learning activities. This selection was intended to ensure that respondents had relevant experience using technology in their learning activities.

RESULTS AND DISCUSSION

RESULTS

Table 1. *Students' Responses to the Use of Electronic Technology in Learning Activities*

No	Statement	SD	D	N	A	SA
1	My phone or laptop is much always part of how I study with Electronic Technology.	1 (1.8%)	2 (3.6%)	9 (16.1%)	10 (17.9%)	34 (60.7%)
2	I check my class materials through a platform my school provides using Electronic Technology.	0 (0.0%)	5 (8.9%)	12 (21.4%)	16 (28.6%)	23 (41.1%)
3	Finding what I need for studying is much easier when I use Electronic Technology.	1 (1.8%)	1 (1.8%)	4 (7.1%)	11 (19.6%)	39 (69.6%)
4	I reach out to my teachers and friends through my phone or other devices using Electronic Technology.	1 (1.8%)	2 (3.6%)	8 (14.3%)	7 (12.5%)	38 (67.9%)
5	Electronic Technology is my go-to whenever I need to work on school tasks or projects.	2 (3.6%)	1 (1.8%)	6 (10.7%)	17 (30.4%)	30 (53.6%)
6	It does not matter where I am. I can always study long as I have my device with Electronic Technology.	1 (1.8%)	1 (1.8%)	5 (8.9%)	12 (21.4%)	37 (66.1%)

7	Getting school materials used to take longer before I started using Electronic Technology.	1 (1.8%)	1 (1.8%)	6 (10.7%)	12 (21.4%)	36 (64.3%)
8	I like that Electronic Technology lets me study in a way that works best for me.	1 (1.8%)	1 (1.8%)	4 (7.1%)	16 (28.6%)	34 (60.7%)
9	I set up my study schedule using apps so I do not fall behind with the help of Electronic Technology.	1 (1.8%)	7 (12.5%)	13 (23.2%)	17 (30.4%)	18 (32.1%)
10	I used to have a time finding lesson info but Electronic Technology has changed that.	5 (8.9%)	1 (1.8%)	6 (10.7%)	13 (23.2%)	31 (55.4%)
11	Learning just feels more enjoyable when there is some Electronic Technology involved.	1 (1.8%)	1 (1.8%)	7 (12.5%)	21 (37.5%)	26 (46.4%)
12	I notice I am into the lesson when we get to use digital tools with Electronic Technology.	1 (1.8%)	4 (7.1%)	18 (32.1%)	10 (17.9%)	23 (41.1%)
13	I feel more willing to raise my hand and participate when Electronic Technology is used in class.	1 (1.8%)	3 (5.4%)	17 (30.4%)	14 (25.0%)	21 (37.5%)
14	Watching videos or seeing simulations helps me actually pay attention during lessons with the help of Electronic Technology.	1 (1.8%)	3 (5.4%)	10 (17.9%)	12 (21.4%)	30 (53.6%)
15	It is much easier to talk to my teacher or classmates during class through Electronic Technology.	2 (3.6%)	1 (1.8%)	13 (23.2%)	14 (25.0%)	26 (46.4%)
16	I get the lesson a lot better when my teacher explains	1 (1.8%)	1 (1.8%)	12 (21.4%)	13 (23.2%)	29 (51.8%)

	things using Electronic Technology.					
17	Studying with tools using Electronic Technology just makes more sense to me than doing it the old way.	1 (1.8%)	1 (1.8%)	10 (17.9%)	21 (37.5%)	23 (41.1%)
18	I have noticed my scores getting better ever since I started using Electronic Technology to study.	1 (1.8%)	1 (1.8%)	15 (26.8%)	17 (30.4%)	22 (39.3%)
19	Electronic Technology has made me more curious and willing to think things through on my own.	2 (3.6%)	4 (7.1%)	8 (14.3%)	16 (28.6%)	26 (46.4%)
20	Honestly I think learning with Electronic Technology is just better than the classroom style.	3 (5.4%)	3 (5.4%)	13 (23.2%)	12 (21.4%)	25 (44.6%)

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree. Values represent frequency (percentage).

Looking at Table 1, the bulk of students gave thumbs up to how electronic tech backs up their learning. These findings indicate that learning has become more accessible, interactive, engaging, and effective, making digital learning a necessity. In this survey, many respondents chose "Agree" and "Strongly Agree".

Take statement 3 – "Electronic tech makes it way easier to track down study resources" – 69.6% went with "Strongly Agree," showing digital stuff really helps kids grab what they need for classes. Then there's statement 6, where 66.1% strongly backed the idea that it lets them learn on their own time, any place they want, which highlights the bendy side of tech in college learning.

Plus, statement 14 had 53.6% strongly agreeing that stuff like videos and sims ramps up their focus during lessons. Bottom line, interactive digital bits seem to hook students better and keep their minds on track.

DISCUSSION

Our study found that digital tech plays a crucial role in boosting how students learn these days. A lot of folks agree it helps them get to all sorts of study resources and connect with others more smoothly. What we uncovered lines up with past research showing that bringing in these tools to college-level classes can really step up both learning quality and how involved students get.

From what we saw, most students nodded along to the idea that digital gadgets let them study whenever and wherever they want. That matches up nicely with work from Bond et al. (2020), where they pointed out how online learning setups give folks flexible ways to learn and easy access to course stuff.

On top of that, using fun interactive stuff like video clips and sims really sharpened students' attention during lessons. This gels with Adnan et al's. (2025) paper, which stressed how digital tools ramp up involvement through hands-on and group-based activities.

The data also showed tech makes it easier for students and teachers to chat and work together. Things like online chat apps and virtual classrooms let kids jump in without hassle and stay active in class. It backs up Al-Rahmi et al. (2020), who said the same about better teamwork and talks in school environments.

All in all, our findings make it clear that electronic tech ramps up the whole learning vibe in higher ed, particularly over at Sriwijaya State Polytechnic. It opens up more access and wiggle room, plus gets students more hooked and better at what they do.

CONCLUSION

We carried out this research to check out how electronic tech supports student learning in the digital age, focusing on Sriwijaya State Polytechnic. From the survey data, it's clear that this tech makes a solid positive difference in how effective learning is at the college level. Most folks agreed it simplifies grabbing

study materials, chatting smoothly, tackling schoolwork, and jumping into class activities more. On top of that, digital tools offer real flexibility, letting students study whenever and wherever suits them.

The results also highlight how interactive stuff like videos, sims, and online platforms boosts students' focus, involvement, drive, and overall results. Blending electronic tech into education creates a more adaptable, hands-on, student-focused setup. So, all things considered, it's safe to say electronic tech is key in backing student learning and ramps up the whole process in higher ed, especially these days.

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