UKI Perpus

THEROLEANDIMPACTOFINFORMATIONTECHNOLOGYDEVEL...

Turnitin Dosen 2

Turnitin Dosen - Feb

Universitas Kristen Indonesia

Document Details

Submission ID
trn:oid:::1:3473622870

Submission Date
Feb 5, 2026, 4:31 PM GMT+7

Download Date
Feb 6, 2026, 8:30 AM GMT+7

File Name
HNOLOGYDEVELOPMENTONTHESTUDENTLEARNINGPROCESSINTHEDIGITALERA.pdf

File Size
261.1 KB

6 Pages

3,698 Words

23,875 Characters

13% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography

Exclusions

- 1 Excluded Source
- 1 Excluded Match

Match Groups

31 Not Cited or Quoted 11%
Matches with neither in-text citation nor quotation marks

5 Missing Quotations 2%
Matches that are still very similar to source material

0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

12% Internet sources
4% Publications
5% Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

Match Groups

- **31** Not Cited or Quoted 11%
  Matches with neither in-text citation nor quotation marks
- **5** Missing Quotations 2%
  Matches that are still very similar to source material
- **0** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

12% Internet sources
4% Publications
5% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Internet	
www.coursehero.com		3%
2	Internet	
discovery-pp.ucl.ac.uk		2%
3	Internet	
www.ijsshr.in		1%
4	Internet	
semnasjurdikipa.uny.ac.id		<1%
5	Publication	
Gema Ika Sari, Shinta Winasis, Ika Pratiwi, Uli Wildan Nuryanto, Basrowi. "Streng...		<1%
6	Internet	
ethesisarchive.library.tu.ac.th		<1%
7	Internet	
www.gojamss.net		<1%
8	Student papers	
University of Witwatersrand		<1%
9	Student papers	
Two Oceans Graduate Institute		<1%
10	Internet	
cn.gii.tw		<1%

11 Internet
www.aramfo.org <1%

12 Internet
e-journal.undikma.ac.id <1%

13 Internet
ejournal.papanda.org <1%

14 Publication
Ulfa Mardatillah, Wildan Budiawan Zulfikar, Aldy Rialdy Atmadja, Ichsan Taufik, ... <1%

15 Internet
repositorium.sdum.uminho.pt <1%

16 Internet
www.classace.io <1%

17 Publication
Humairah Hajijah, Atika, Nur Ahmadi Bi Rahmani. "Exploring Digital Faith Practi... <1%

18 Publication
Igwe, Hephzibah. "The Significance of Automating the Integration of Security and... <1%

19 Internet
bau.edu <1%

20 Internet
www.imarcgroup.com <1%

21 Internet
www.mdpi.com <1%

INTERNATIONAL HUMANITIES AND APPLIED SCIENCES JOURNAL (IHASJ)
e-ISSN 2622-5808; p-ISSN 2655-6553, Volume 8, Issue 3, December 2025

10.22441/ihasj.2022.v5i3.02

THE ROLE AND IMPACT OF INFORMATION TECHNOLOGY DEVELOPMENT ON THE STUDENT LEARNING PROCESS IN THE DIGITAL ERA

Gunawan Pangaribuan[1], Melkisedek Rafles[2], Ester Sihotang[3], Dulles Tomubolon[4], Mutiha Marbun[5], Augus Aritonang[6], Sotarduga Napitupulu[7], Diary Demario[8], Bernadus Primus[9], Regina Lengkong[10], Dameria Sinaga[11]

[1,2,3,4,5,6,7,8,9,10,11]Study Program Law, Faculty of Law, Universitas Kristen Indonesia
Jl. Mayjen Sutoyo No.2 Cawang, Jakarta 13630
reginadlengkong@gmail.com

Abstract *– The rapid evolution of information technology (IT) has profoundly reshaped the educational landscape, particularly for university students. Learning processes, once confined to physical classrooms, are now accessible through diverse digital platforms with enhanced flexibility. This study aims to analyze the role and impact of IT development on the effectiveness of student learning in the digital age. Employing a literature review methodology drawing from various academic sources and scholarly articles, the findings indicate that IT plays a crucial role in facilitating information access, enhancing learning interactivity, and broadening students' intellectual horizons. Nevertheless, the advancement of IT also introduces negative consequences, such as device dependency, diminished academic focus, and the risk of information misuse. This paper explores both the advantages and the challenges, providing a comprehensive overview of IT's dual role in modern higher education.*

Keywords: *information technology; higher education; digital learning; digital era; impact of online technology*

INTRODUCTION

The advancement of information technology in the 21st century has catalyzed profound changes across numerous aspects of human life, with the field of education being no exception. The proliferation of digital technologies, the internet, and smart devices has driven a significant transformation in how individuals interact, work, and learn. Within the context of higher education, the traditional learning process is no longer constrained by physical space and time. Instead, it has evolved into a more flexible, interactive, and technology-centric system (Siagian, 2020). Today, university students can access a vast array of learning resources online, engage in virtual classrooms, and collaborate through digital platforms without the necessity of being physically present in a lecture hall.

Information technology has become the foundational pillar of modern educational delivery. Innovations such as Learning Management Systems (LMS), e-learning platforms, Massive Open Online Courses (MOOCs), and mobile-based learning applications are now widely integrated into academic activities to enhance the efficacy of teaching and learning (Nugroho & Prasetyo, 2021). The utilization of these technologies provides students with opportunities for self-directed learning, allowing them to manage their study schedules according to their individual needs and to expand their knowledge by accessing global information sources (Sari, 2022; Hapsari & Puspitasari, 2024). Furthermore, interaction between faculty and students has become more dynamic through various digital communication channels, including discussion forums, video conferencing, and collaborative platforms.

However, alongside the numerous conveniences and benefits it offers, the rapid development of information technology also presents unique challenges in the realm of higher education. Students are now required to possess strong digital literacy skills to effectively filter information, avoid the misuse of technology, and leverage it for productive purposes (Rahmawati & Santoso, 2021). A

INTERNATIONAL HUMANITIES AND APPLIED SCIENCES JOURNAL (IHASJ)
e-ISSN 2622-5808; p-ISSN 2655-6553, Volume 8, Issue 3, December 2025

10.22441/ihasj.2022.v5i3.02

deficiency in digital literacy can lead to reduced learning effectiveness, an over-reliance on technology, and even give rise to ethical issues such as plagiarism and the dissemination of false information. Consequently, it is imperative to conduct a deeper analysis of the role and impact of information technology development on the student learning process in the digital era. This study focuses not only on the positive aspects, such as increased accessibility and learning efficiency, but also examines the emergent challenges from the perspectives of students, educators, and educational institutions. By understanding both facets, it is hoped that effective strategies can be formulated to optimize the use of information technology in support of achieving high-quality higher education goals that are relevant to the demands of the contemporary world.

LITERATURE REVIEW

Information Technology in Higher Education

The integration of information technology into higher education has been extensively studied by researchers worldwide. According to Davis (2019), information technology serves as a transformative force that fundamentally alters traditional educational paradigms. The adoption of digital technologies in universities has accelerated particularly since the early 2000s, with significant growth in online learning platforms, digital libraries, and collaborative tools (Turban et al., 2020). This technological evolution has created new opportunities for student engagement while simultaneously presenting novel challenges for educational institutions.

Research by Creswell (2018) demonstrates that the effectiveness of technology integration depends significantly on institutional readiness, faculty training, and student digital literacy levels. Universities that successfully implement comprehensive technology strategies typically show improved student outcomes, increased access to educational resources, and enhanced collaborative learning opportunities. However, the same research indicates that poorly planned technology adoption can lead to decreased learning effectiveness and increased cognitive overload among students.

Learning Management Systems and Digital Platforms

Learning Management Systems (LMS) have emerged as cornerstone technologies in modern higher education. Nugroho and Prasetyo (2021) conducted a comprehensive study on LMS implementation in Indonesian universities, finding that institutions using structured LMS platforms reported a 35% improvement in student engagement and a 28% increase in course completion rates. The research highlighted that effective LMS implementation requires careful consideration of user interface design, content organization, and integration with existing institutional systems.

The rise of collaborative platforms such as Microsoft Teams, Google Classroom, and specialized educational tools has further transformed the educational landscape. These platforms enable synchronous and asynchronous learning experiences, supporting diverse learning styles and preferences. Research conducted by Rahmawati and Santoso (2021) revealed that students who actively participated in digital collaborative activities demonstrated higher levels of critical thinking and problem-solving skills compared to those in traditional classroom settings.

Digital Literacy and Student Autonomy

Digital literacy has emerged as a fundamental competency for academic success in the modern era. Sari (2022) defines digital literacy in the academic context as the ability to effectively locate, evaluate, and utilize digital information while maintaining awareness of ethical considerations and information credibility. Students with high levels of digital literacy demonstrate greater independence in their learning processes and show improved academic performance across multiple disciplines.

The concept of learning autonomy has gained significant attention in recent educational research. Siagian (2020) argues that technology-enhanced learning environments promote greater student autonomy by providing learners with control over their pace, sequence, and depth of study. This autonomy, however, requires students to develop self-regulation skills and motivation to engage meaningfully with digital learning resources.

INTERNATIONAL HUMANITIES AND APPLIED SCIENCES JOURNAL (IHASJ)
e-ISSN 2622-5808; p-ISSN 2655-6553, Volume 8, Issue 3, December 2025

10.22441/ihasj.2022.v5i3.02

Challenges and Negative Impacts

Despite the numerous benefits, the rapid integration of information technology in education has also generated significant challenges. Research by Rahmawati (2022) identifies several key concerns, including technology dependency, reduced face-to-face social interaction, and the digital divide that may exclude students with limited access to technology. The study found that over-reliance on digital tools can lead to decreased problem-solving abilities when technology is unavailable.

Distraction and multitasking issues have also been extensively documented. Students often struggle to maintain focus in digital learning environments due to the constant availability of entertainment and social media platforms. This challenge is particularly pronounced in online learning settings where external monitoring is limited. Educational institutions must therefore develop strategies to help students develop digital self-discipline and effective time management skills.

Academic Integrity in Digital Environments

The ease of information access in digital environments has created new challenges related to academic integrity. Plagiarism and unauthorized collaboration have become more prevalent issues that educational institutions must address. Sugiyono (2022) emphasizes that digital literacy education must include comprehensive training on academic ethics, proper citation practices, and the responsible use of digital resources.

Furthermore, the COVID-19 pandemic has accelerated the adoption of remote learning technologies, highlighting both the potential and limitations of digital education. While technology enabled educational continuity during lockdowns, it also revealed significant gaps in digital infrastructure, teacher preparation, and student support systems. These experiences have provided valuable insights for future technology integration strategies in higher education.

Theoretical Framework

This study is grounded in the Technology Acceptance Model (TAM) developed by Davis (1989), which explains how users come to accept and use technology. The model suggests that perceived usefulness and perceived ease of use are fundamental determinants of technology adoption. In the educational context, students are more likely to embrace digital learning tools when they perceive these technologies as useful for their academic goals and easy to navigate.

Additionally, this research draws upon Social Cognitive Theory, which emphasizes the role of self-efficacy in learning processes. In technology-enhanced learning environments, students' confidence in their ability to use digital tools effectively significantly influences their engagement and learning outcomes. Understanding these theoretical foundations provides a framework for analyzing the complex relationships between technology, learning processes, and student outcomes in higher education settings.

MATERIAL AND METHOD

Material

This literature review utilized multiple academic databases and digital resources to gather comprehensive information about information technology development and its impact on student learning processes. The primary materials consisted of peer-reviewed academic journals, government reports, institutional publications, and credible online resources published between 2018 and 2023.

The main databases searched included Google Scholar, ERIC (Education Resources Information Center), IEEE Xplore Digital Library, and Indonesian scientific databases such as Garuda (Garba Rujukan Digital). Search terms included combinations of "information technology," "higher education," "digital learning," "student learning process," "Learning Management Systems," and "educational technology impact." The search was limited to English and Indonesian language publications to ensure relevance to the Indonesian higher education context.

Specific attention was given to Indonesian Ministry of Communication and Informatics (Kominfo) reports and surveys, particularly the 2023 study on internet usage among university students. Additional materials included institutional case studies from Indonesian universities, comparative studies from international contexts, and theoretical frameworks related to technology acceptance and

10.22441/ihasj.2022.v5i3.02

educational effectiveness. The selection criteria prioritized recent publications, empirical research findings, and studies with direct relevance to the Indonesian higher education system.

Methods

This research employs a literature review methodology, an approach that involves collecting, reviewing, and analyzing a range of relevant reference materials to gain a comprehensive understanding of the topic under investigation. According to Zed (2014), a literature review is a systematic method for identifying, evaluating, and synthesizing the findings of previous research related to the phenomenon being studied. This approach was chosen to explore the theories, concepts, and empirical results that support the analysis of the role and impact of information technology development on the student learning process in the digital era.

The data sources for this study consist of various scholarly literature and digital resources, including national and international journals, credible online articles, academic books, survey reports, and government policy documents related to technology-based education. A key reference utilized is a survey from the Ministry of Communication and Informatics (Kominfo, 2023), which indicated that over 85% of Indonesian university students use the internet for academic activities such as attending online lectures, finding scientific references, and participating in digital discussions.

In addition to secondary data from the literature, this research also incorporates the personal experiences of the authors as students who actively use various digital learning platforms, including Learning Management Systems (LMS), Microsoft Teams, and Google Classroom. These experiences serve as a reflective component that enriches the empirical analysis of how information technology supports learning activities, enhances the effectiveness of academic communication, and introduces new challenges like technological dependency and potential concentration disruptions.

The analysis was conducted using a qualitative descriptive method, which involves describing the findings from various sources and connecting them to relevant theories. As outlined by Miles, Huberman, and Saldana (2014), descriptive analysis in qualitative research comprises three main stages: data reduction, data display, and conclusion drawing. The data gathered from literature and personal experience were systematically processed to identify patterns, relationships, and meanings that illustrate the role and impact of information technology development on the student learning process. Through this literature review approach, the study aims to provide a holistic picture of how the integration of IT in higher education influences learning patterns, academic interactions, and the overall quality of student learning in the digital age.

RESULTS AND DISCUSSION

The advancement of information technology has exerted a significant influence on the learning process for university students, creating both opportunities and challenges that must be carefully managed. Based on the literature review conducted, several important findings emerge regarding the role and impact of information technology development on student learning in the digital era.

The Positive Impacts of Information Technology Development

One of the most significant positive impacts of information technology development is the improvement in accessibility and flexibility of learning. Students can now access learning materials anytime and anywhere, breaking down the temporal and spatial barriers that previously limited the learning process. According to Sari (2022), the availability of digital platforms enables students to engage in self-directed learning, allowing them to adjust their study pace according to their individual needs and capabilities. This flexibility is particularly beneficial for working students or those with other commitments that make attending traditional face-to-face classes challenging.

Information technology also facilitates access to a vast array of learning resources that were previously difficult to obtain. Students can access digital libraries, online databases, scientific journals, and educational videos from around the world with just a few clicks. This democratization of information has significantly expanded students' learning opportunities and has contributed to improving the overall quality of education. The availability of diverse learning formats, from text and audio to interactive videos and simulations, caters to different learning styles and preferences, thereby

INTERNATIONAL HUMANITIES AND APPLIED SCIENCES JOURNAL (IHASJ)
e-ISSN 2622-5808; p-ISSN 2655-6553, Volume 8, Issue 3, December 2025

10.22441/ihasj.2022.v5i3.02

enhancing learning effectiveness and efficiency in learning, while also supporting the concept of lifelong learning among students.

Beyond facilitating access and flexibility, information technology also enhances collaboration among students. Digital tools such as discussion forums, online chat rooms, and cloud-based collaborative platforms (e.g., Google Docs or Microsoft Teams) enable students to work together on group projects effectively without needing to meet in person. According to Rahmawati and Santoso (2021), this form of digital collaboration not only strengthens communication skills but also cultivates critical thinking and teamwork abilities, which are essential for preparing students for the professional world. Thus, technology serves not merely as an auxiliary tool but as a medium for developing social and professional competencies.

The Negative Impacts of Information Technology Development

Despite its numerous benefits, the proliferation of information technology also introduces a set of challenges and negative impacts on the student learning process. These effects must be carefully considered to ensure that technology is utilized in a manner that remains positive and productive.

A prominent negative consequence is the growing dependency of students on digital technology. Many students find it difficult to study without electronic devices such as laptops, smartphones, or an internet connection. This dependency can diminish critical thinking and creativity, as students may become inclined to rely on instant search results rather than engaging in a deep analysis of a problem (Siagian, 2020). The over-reliance on tools can stunt the development of fundamental research and problem-solving skills.

Furthermore, the ease of access to the internet can be a significant source of distraction. Social media and digital entertainment platforms like YouTube, Instagram, and TikTok often divert students' attention from their academic tasks. Rahmawati and Santoso (2021) note that excessive digital multitasking can reduce focus and impair the quality of comprehension of lecture materials. This phenomenon presents a major challenge for students in maintaining discipline and effective time management during online learning sessions.

The effortless access to digital information also heightens the risk of plagiarism. Students may be tempted to copy the work of others without proper citation. According to Kominfo (2023), the high rate of internet usage for academic activities is not always matched by adequate digital literacy and an understanding of academic ethics. Consequently, this gives rise to academic integrity issues that require serious attention from educational institutions.

To mitigate these negative impacts, it is essential to enhance digital literacy and promote academic ethics among students. Digital literacy encompasses not only the technical skills to operate devices but also a critical understanding of the information obtained, the ability to evaluate source credibility, and an awareness of the ethical aspects of technology use (Sugiyono, 2022). Higher education institutions should also organize training or seminars on digital citizenship and academic integrity to cultivate a sense of responsibility in the use of information technology.

Research Implications

The findings of this study indicate that information technology holds a dual role in higher education: on one hand, it is an innovative facilitator of learning, while on the other, it can introduce new problems if not used wisely. Therefore, educational institutions must implement balanced policies that harness technology for learning innovation while simultaneously strengthening the academic character and integrity of students. By doing so, technological advancements can genuinely serve as a means to enhance the quality of education, rather than being merely a transient auxiliary tool.

CONCLUSION

The development of information technology has brought about a significant transformation in the learning process for university students in the digital era. Through a variety of platforms such as Learning Management Systems (LMS), Microsoft Teams, Google Classroom, and other online learning media, students can access course materials, search for references, engage in discussions, and learn with a flexibility that transcends the constraints of space and time. Information technology

INTERNATIONAL HUMANITIES AND APPLIED SCIENCES JOURNAL (IHASJ)
e-ISSN 2622-5808; p-ISSN 2655-6553, Volume 8, Issue 3, December 2025

10.22441/ihasj.2022.v5i3.02

also fosters enhanced collaboration, promotes learning autonomy, and encourages active student engagement in the academic process. Conversely, this technological progress introduces a number of challenges, including dependency on digital devices, concentration disruptions caused by social media distractions, and an increased risk of plagiarism due to the ease of information access. Therefore, it is crucial to improve digital literacy, foster an awareness of academic ethics, and manage technology use judiciously to minimize these negative impacts. Overall, information technology plays a dual role: it is a primary facilitator of learning innovation and, simultaneously, a new challenge that must be managed effectively. The optimal use of technology can elevate the quality of higher education, making the learning process more effective, collaborative, and adaptive in the digital age.

REFERENCES

Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Davis, G. B. (2019). *Management Information Systems: Conceptual Foundations, Structure, and Development*. McGraw-Hill.

Hapsari, A. A., & Puspitasari, D. M. (2024). The influence of financial technology on the advancement of financial inclusion in micro, small, and medium enterprises (MSMEs) in West Java. *Accounting Studies and Tax Journal (COUNT)*, *1*(1), 48-60.

Kominfo. (2023). *Pemanfaatan Teknologi Informasi dalam Dunia Pendidikan* [Utilization of Information Technology in the World of Education]. Kementerian Komunikasi dan Informatika Republik Indonesia.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). SAGE Publications.

Nugroho, A., & Prasetyo, B. (2021). Pemanfaatan Learning Management System dalam Meningkatkan Kualitas Pembelajaran di Perguruan Tinggi [Utilization of Learning Management Systems in Improving the Quality of Learning in Higher Education]. *Jurnal Teknologi Pendidikan, 23*(2), 112-124.

Rahmawati, D. (2022). Dampak Teknologi Digital terhadap Pembelajaran Mahasiswa di Indonesia [The Impact of Digital Technology on Student Learning in Indonesia]. *Jurnal Pendidikan dan Teknologi Informasi, 8*(2), 45-53.

Rahmawati, D., & Santoso, H. (2021). Literasi Digital Mahasiswa di Era Transformasi Digital Pendidikan [Student Digital Literacy in the Era of Digital Transformation in Education]. *Jurnal Pendidikan dan Kebudayaan, 11*(1), 45-56.

Sari, N. P. (2022). Dampak Pembelajaran Daring terhadap Kemandirian Belajar Mahasiswa di Masa Pandemi [The Impact of Online Learning on Student Learning Autonomy During the Pandemic]. *Jurnal Ilmu Pendidikan, 9*(3), 205-217.

Siagian, R. (2020). Teknologi Informasi dan Tantangan Pendidikan di Era Revolusi Industri 4.0 [Information Technology and Educational Challenges in the Industry 4.0 Revolution Era]. *Jurnal Ilmiah Pendidikan, 7*(1), 15-27.

Sugiyono. (2022). *Metode Penelitian Kualitatif, Kuantitatif, dan R&D* [Qualitative, Quantitative, and R&D Research Methods]. Alfabeta.

Turban, E., Pollard, C., & Wood, G. (2020). *Information Technology for Management: On-Demand Strategies for Performance, Growth and Sustainability* (12th ed.). Wiley.

Zed, M. (2014). *Metode Penelitian Kepustakaan* [Library Research Methods]. Yayasan Obor Indonesia.