

Jurnal Sistim Informasi dan Teknologi

https://jsisfotek.org/index.php

No. 2

Hal: 96-100

e-ISSN: 2686-3154

# Analysis of School Policy Effectiveness in Anticipating Students' Use of The Internet and Digitalization in Learning Process

Mohzana<sup>1</sup><sup>∞</sup>, Desty Endrawati Subroto<sup>2</sup>, DM Ratna Tungga Dewa<sup>3</sup>, Rinovian<sup>4</sup>, Hadi Prayitno<sup>5</sup>

<sup>1</sup>Universitas Hamzanwadi <sup>2</sup>Universitas Bina Bangsa <sup>3</sup>Universitas Atma Jaya Yogyakarta <sup>4</sup>Unindra Jakarta <sup>5</sup>Akademi Penerbang Indonesia Banyuwangi

mohzana@hamzanwadi.ac.id

#### Abstract

This research aims to understand the points of agreement, tensions, and disputes between students, teachers and schools regarding the use of the Internet by teenagers for educational purposes. This study employs an empirical approach by utilizing survey methods and semi-structured interviews. We obtained data for this research from 100 respondents. According to the analysis's findings, technology integration in education necessitates adequate training for teachers to be able to integrate technology effectively. Teachers need to not only master technical skills but also understand how to use technology to stimulate students' critical and collaborative thinking. Holistic digital literacy is the key to preparing students to face the complexity of today's digital information. Teachers' role as facilitators is also changing, with technology allowing them to support students in actively engaging in learning and knowledge creation. The importance of diversifying learning sources, including the internet and traditional sources, enriches students' learning and ensures they are skilled in using a variety of information sources. While there are challenges in adopting technology, proper integration can improve the relevance and quality of learning, preparing young people to face the future more effectively.

Keywords: Students, Internet, Schools, Learning.

2024

Vol. 6

JSISFOTEK is licensed under a Creative Commons 4.0 International License.

### 1. Introduction

In the digital era, the education sector has witnessed the emergence of new actors who utilize digital platforms and social networks to create and disseminate educational content [1]. These actors, who are often individuals or groups with charismatic appeal, have gained legitimacy not through traditional or rational means but through recognition and support from the internet user community [2]. Their popularity in cyberspace grants them a new authority distinct from that of formal educational institutions. The concept of domination states that traditional and legal-rational authority, which has been the basis of the formal school system, is starting to falter in this digital era. Subjectivity and identity construction are becoming increasingly important, with spaces for the circulation of knowledge that are more diverse and often negotiated [3]. This implies that new actors operating beyond traditional boundaries now control knowledge, not just official authorities [4]. Digital platforms, while appearing to provide an open space for sharing content, are actually also bound by underlying economic interests. They operate within an agreed-upon doctrine of legitimacy, contributing to the naturalization and clarity of the subject [5]. This means that despite the freedom to share knowledge, these platforms remain under the influence of larger economic forces that can shape and limit the content shared. This shift also has important implications for the concept of authority in education [6]. People are beginning to question traditional and legalrational authority, which is based on existing norms and beliefs. Internet users are more likely to follow and trust charismatic figures who they feel are more relevant and authentic compared to institutional authorities, who may appear rigid and unresponsive to the needs and dynamics of the times [7]. This leads to a change in the dissemination and reception of knowledge within society [8].

Apart from that, this phenomenon also shows the tension between formal and informal education. Formal education, regulated by states and institutions, has a strict structure and curriculum, while informal education delivered through digital platforms is more flexible and adaptive. This informal education can quickly respond to new trends and market needs, offering courses and materials that are immediately applicable [9]. However, this has also resulted in the commercialization of education, where the ability to pay often determines access to knowledge [10]. To face these challenges, it is important for the formal education system to adapt and integrate new approaches that are more suited to the digital era [11]. This could include the use of technology in teaching,

the development of more flexible and responsive curricula, and collaboration with new actors in education. In this way, formal education can remain relevant and effective in meeting society's needs in this digital era, while maintaining the basic values of education and ensuring equal access for all levels of society [12]. Ultimately, this shift in authority in education underscores the importance of adaptation and innovation in the education system. It serves as a reminder that knowledge is dynamic and constantly evolving, necessitating constant adaptation in education systems to ensure universal access and utilization, not limited to those who can afford digital platforms and their content [13].

Social and technological changes have given rise to new authorities outside formal structures, especially through digital platforms [14]. This authority gains legitimacy from internet users themselves, rather than from traditional institutions such as schools. This phenomenon indicates a paradigm shift in the way we understand and recognize authority in modern education [15]. On digital platforms, content and popularity can significantly influence how students perceive knowledge and leadership. By adopting the right approach, formal education can integrate the positive aspects of the digital environment, making it more relevant and effective in meeting educational needs in the digital era [16]. Technology has created new ways to acquire skills, manage information, and build innovative forms of learning. This development not only affects the formal education system, but also changes the paradigm of using technology in overall educational transformation. We need to reframe teacher competencies in this context [17]. People no longer view them solely as information holders, but rather as facilitators in the educational process [18]. The role of teachers today places greater emphasis on their ability to encourage reflection, foster critical thinking, and assist students in validating the information they receive from various sources, including digital platforms. This underlines the importance of adaptation in educational practices to respond to the challenges and opportunities offered by the current digital revolution [19].

The value of connecting technology to education lies not only in its technical aspects, but also in the social and cultural dynamics involved in educational practices [20]. Education actors, including teachers, need to understand that the integration of technology in learning involves more than just the use of digital tools. It also involves a deep understanding of how technology can influence social and cultural interactions in learning contexts [21]. Although many teachers come from previous generations who may not be as familiar with digital technology as younger generations, this does not negate their ability to acquire new knowledge and skills. Teachers can learn and develop practical teaching strategies that relate their approaches to the way young people think and learn [22]. This requires a willingness to be open to change, learn continuously, and adapt technology as a tool to facilitate reflection, critical thinking, and a deep understanding of information [23]. The sociocultural importance of technology in this context is that it not only changes the way we access information or carry out activities but also changes the dynamics of interactions between teachers and students and the overall learning experience [24]. Teachers who can integrate technology well into their practice can create learning environments that are more inclusive, dynamic, and responsive to the needs and interests of today's students. As a result, the value of linking technology and education lies in its ability to bring innovation and improvement to the teaching and learning process while remaining mindful of the social and cultural context in which education occurs [25]. This also emphasizes that learning technology is not only a task for the younger generation, but also a commitment and challenge for educators to continue to develop and perfect their practices so that they are relevant and effective in changing times.

## 2. Research Methods

This research adopts an empirical approach using survey methods and semi-structured interviews. This approach is based on a well-structured theoretical-historical foundation, with the main aim of gaining a deep understanding of the population under study. We used the survey method to systematically collect data from 100 representative respondents, covering various perspectives within the studied population. In this research, surveys are an effective tool because they allow researchers to collect significant quantitative data from widely distributed respondents. Thus, this research can provide strong and measurable insights into the topic under study, which focuses on the use of technology in education and the shift in authority paradigms in a digital context. We used semi-structured interviews in addition to surveys to gain a deeper understanding of individuals' experiences, views, and perceptions of technology use in educational contexts. This combined approach allows researchers to gain deeper and more nuanced perspectives from respondents, which not only complements survey data but also provides richer context for the observed phenomena.

## 3. Results and Discussion

The absence of adequate training regarding internet use can hinder a more in-depth approach to technology in education. Without adequate training, significant innovation in the use of technology will not occur. We need to provide teachers with training that not only focuses on mastering information and digital skills, but also on critical and pedagogical teaching related to the use of technological tools. Comprehensive training will enable teachers to integrate technology into their teaching in an effective and relevant manner. This requires not only a

technical mastery of the technology, but also an understanding of its potential to significantly improve student learning. Thus, the approach to technology no longer sees it as a tool or artifact, but as a holistic and in-depth pedagogical approach. By providing appropriate training, teachers can become facilitators capable of using technology to stimulate critical thinking, collaboration, and deeper learning. Increasing teachers' digital competence is crucial in an increasingly digitally integrated educational context, as it enables them to fully utilize technology to support the achievement of broader and more meaningful learning goals.

All parties involved in the educational process emphasize that the legitimacy of youth's use of the internet for educational purposes does not solely depend on the reliability of the websites visited. They emphasized that legitimacy should be based more on students' ability to cite and refer to relevant sources in carrying out their assignments. This point emphasizes the critical use of technology in educational contexts. Adequate digital literacy is not just about mastering technology as a tool, it also involves the ability to assess the existence and reliability of the information sought. Therefore, a critical approach to technology necessitates that students not only operate technological tools effectively, but also comprehend the context of information acquisition and its potential applications in educational contexts. This approach underscores the significance of holistic digital literacy, where students not only learn effective technology use but also cultivate critical evaluation skills for the information they access on the internet. In this way, education can empower students to become intelligent and responsible technology users, ready to face complex challenges in today's digital era. In this context, the role of education is to not only provide access to technology but also to train students to be able to make maximum use of it in an ethical and productive way. This will help prepare young people to be part of a connected and dynamic society while ensuring that they have the critical skills necessary to navigate complex and diverse information in this digital age.

There is a tension in understandings of authority between teachers' conceptions of them as educational leaders and students' perceptions of them as hierarchical authorities and rule enforcers. On the one hand, the teacher is considered a leading figure in the educational process, responsible for providing direction, knowledge, and values to students. However, students sometimes perceive teachers as authorities who enforce rules and hierarchical structures within the learning environment. In this context, technology makes a significant contribution. Digital technology allows for more democratic interactions in which information consumers can act as knowledge producers. This implies that students not only receive the teacher's knowledge passively, but also actively participate in its creation and exchange. Technology facilitates students' more independent and interactive appropriation of knowledge in both formal and non-formal educational spaces. They can access information from a variety of sources, participate in online discussions, and collaborate with fellow students to build deeper understanding. Thus, technology helps reduce the tension between traditional conceptions of teacher authority and modern expectations of students' active involvement in the learning process. With a well-integrated approach, education can harness the potential of technology to expand the role of teachers as facilitators and drivers of inspiring learning, while also providing space for students to develop their independence and creativity in understanding and managing knowledge.

Technology has fundamentally changed the educational landscape by facilitating students to become not just passive consumers of information but also active producers of knowledge. In educational spaces, both formal and non-formal, digital technology allows wider access to learning resources. Students can explore information from various online sources, participate in in-depth discussions through forums, collaborate with classmates on digital-based projects, and use technology tools to develop a deep understanding of course topics. This technology not only enriches students' learning experiences, but also provides opportunities for teachers to improve their teaching methods. By making optimal use of technology, teachers can create a more dynamic and interactive learning environment, facilitating students' exploration of various concepts and ideas. Remember that education technology must be critical. It is important that we develop appropriate guidance on how to use technology to be effective in supporting meaningful learning. This will help to build better education, which not only prepares students to face future challenges but also optimizes the role of teachers as facilitators of knowledge and active learning.

The research results revealed that people use the internet in a variety of contexts, such as non-formal and informal spaces and formal educational institutions. This is in accordance with previous research, which emphasizes how technology and open spaces contribute to learning for the younger generation through digital media. The younger generation continues to use the internet intensively for educational purposes, which includes learning activities outside of school or university hours. They access a variety of online resources to obtain information, learn about specific topics, and participate in learning activities. Thus, there is a clear trend that the internet is not only limited to entertainment but also for learning activities. Thus, there is a clear trend that the internet is not only a tool for instant access to information but also a means for widely integrated learning in the daily lives of the younger generation. This underscores the significance of comprehending the effective utilization of technology in modern education, while considering the diverse preferences and needs of users.

The activities that young people engage in on the internet reflect a wide range of preferences and varying frequencies of use. In general, they are active in activities such as listening to music, accessing information from friends or family, interacting via chat, and watching videos on platforms. People can now access the internet from anywhere. This reflects increasing trends in digital mobility and the widespread availability of access. However, the definition of education no longer confines responses to the formal education framework. The majority of students, around 78% use the internet to search for information, an aspect that is key in the process of acquiring knowledge and learning. As a result, the perception of education has significantly changed, moving from a narrow emphasis on formal education to a broader acknowledgement of the diverse forms of learning facilitated by digital technology. This shows the importance of integrating education in a broader and more adaptive context, according to the way the younger generation utilizes and interacts with today's digital world. Teachers have observed that children now bring their own information to class, enabling them to effectively disseminate and discuss lesson topics, thereby fostering a connection between the younger generation and their teachers. This places students in an active role in the educational process, while teachers take on the role of facilitators and guides, not just conveyers of information. A comment from a teacher emphasized that teachers can now focus on guiding students to manage their own knowledge rather than just delivering lesson material. However, there is also recognition that there are still teachers who may be lagging behind in implementing new methodologies that help students build their own knowledge. Some teachers complain that some of their colleagues still adopt a more passive, traditional educational approach, copying the teaching methods they received decades ago without much change. Factors such as student overcrowding and the structure of the education system are also considered barriers to implementing necessary changes. In this context, the recommendations submitted by the authorities emphasize the importance of not relying solely on the internet as the only source of consultation. The internet allows for fast and broad access to information from various sources around the world, enriching learning materials with continuously updated and varied content. Meanwhile, books and other printed materials remain important sources because they provide a foundation of in-depth knowledge, an organized structure, and more specific coverage of topics. Good integration between the internet and these traditional sources can increase the effectiveness and depth of learning, allowing students to develop a more comprehensive understanding of the subject matter they are studying. In this context, teachers' role in their relationships with students is critical. The concept of dialogue or equal interaction, as suggested in distance education models, provides an approach rich in elements that enrich the learning experience. However, there are moments when this approach may not produce the expected results, depending on the situation and the learning context. Authorities in education who maintain the vision of teachers as holders of the legitimacy of knowledge hope that teachers can guide students to be able to distinguish correct and relevant information for use in their learning.

## 4. Conclusion

Several important conclusions support the integration of technology in education, based on the presented analytical results. Sufficient training is crucial for teachers to effectively incorporate technology into their lessons. Teachers not only need to master the technical aspects but also understand how technology can stimulate students' critical and collaborative thinking. In the complex digital information era, students need to learn holistic digital literacy to assess and use information critically and ethically. The teacher's role has changed to become more of a learning facilitator, allowing students to be actively involved in creating knowledge. It is also important to integrate the internet with traditional sources such as books and magazines to enrich students' learning experiences and develop their abilities to use various sources of knowledge. The internet not only provides broad access to actual information, but also supports relevant and contextual learning. Technology has significantly transformed the concept of authority in education, enabling students to actively participate in the teaching and learning process. Although adopting technology in education presents challenges, integrating technology with existing educational methods presents great opportunities to improve the quality and relevance of learning. Overall, the right integration of technology can produce more meaningful and relevant learning experiences for young people, preparing them to face future challenges more effectively.

#### References

- [1] Mardiani, E., Haryaka, U., Aziza, F., Salabi, A., & Wibowo, T. S. (2023). THE INFLUENCE OF WORK COMPETENCE ON WORK PRODUCTIVITY WITH WORK MOTIVATION AS A MODERATING VARIABLE. *JURNAL ILMIAH EDUNOMIKA*, 8(1).
- [2] Naninsih, N., Handayani, S., Yuniningsih, T., Suriadi, S., Sangkala, M., Kasmawaru, K., ... & Abaharis, H. (2023). MSDM (SDM ERA DIGITAL). *MSDM (SDM ERA DIGITAL)*.
- [3] Wiliyanti, V., & Yudiarsah, E. (2016, April). Internal twisting motion dependent conductance of an aperiodic DNA molecule. In AIP Conference Proceedings (Vol. 1729, No. 1). AIP Publishing.
- [4] Mohzana, M., Murcahyanto, H., & Haritani, H. (2024). The Effectiveness of Online Learning on the Level of Understanding of International Course Material. IJE: Interdisciplinary Journal of Education, 2(1), 1-11.

Jurnal Sistim Informasi dan Teknologi - Vol. 6, No. 2 (2024) 96-100

- [5] Mohzana, M., Arifin, M., Pranawukir, I., Mahardhani, A. J., & Hariyadi, A. (2024). Quality Assurance System in Improving the Quality of Education in Schools. Mudir: Jurnal Manajemen Pendidikan, 6(1).
- [6] Wiliyanti, V., Suyanto, E., & Abdurrahman, A. (2019). Pengembangan perangkat pembelajaran ipa terpadu berorientasi pendidikan karakter pada model pembelajaran exclusive. *Jurnal Pembelajaran Fisika Universitas Lampung*, 2(3), 120058.
- [7] Putra, F. A., Yaqubi, A. K., Adam, R. I., Wiliyanti, V., & Anigrahawati, P. (2024). Curvature Quantization based on the Ehrenfest Paradox in the Bohr Atomic Model. *Astroparticle Physics*, *159*, 102950.
- [8] Rahmatika, Z., Wiliyanti, V., Diani, R., Daenuri, E., & Putri, C. A. S. A. (2024, April). Science, Technology, Engineering, and Mathematics (STEM) approach in physics learning: Meta-analysis study. In AIP Conference Proceedings (Vol. 3058, No. 1). AIP Publishing.
- [9] Wiliyanti, V., Destiana, A., & Shidqha, N. H. (2022). Development Massive Open Online Courses (MOOCs) Based on Moodle in High School Physics Static Electricity. Jurnal Program Studi Pendidikan Fisika, Fakultas Keguruan dan Ilmu Pendidikan, 10(2302-0105).
- [10] Wiliyanti, V., Suyanto, E., & Abdurrahman, A. (2019). Pengembangan perangkat pembelajaran ipa terpadu berorientasi pendidikan karakter pada model pembelajaran exclusive. *Jurnal Pembelajaran Fisika Universitas Lampung*, 2(3), 120058.
- [11] Windasari, A., Syefrinando, B., Wiliyanti, V., Komikesari, H., & Yuberti, Y. (2024, April). The influence of the blended learning model on students' concept understanding ability viewed from self-confidence. In *AIP Conference Proceedings* (Vol. 3058, No. 1). AIP Publishing.
- [12] Tesi, Y. (2024). PENGEMBANGAN E-MODUL PEMBELAJARAN FISIKA BERBASIS ETNO-STEM PADA MATERI GELOMBANG BUNYI (Doctoral dissertation, UIN RADEN INTAN LAMPUNG).
- [13] Shafamarwa, S., Thahir, A., Puspita, A., Pirka, F. I., Wiliyanti, V., & Dhanny, D. R. (2024). The Implementation of Problem-Based Learning to Improve Students' Writing Achievement in Argumentative Essay: Global Warming. In *E3S Web of Conferences* (Vol. 482, p. 04023). EDP Sciences.
- [14] Wiliyanti, V., & Suyanto, E. (2014). Abdurrahman, Pengembagan Perangkat Pembelajaran IPA Terpadu Berorientasi Pendidikan Karakter Pada Model Pembelajaran Exclusive '. Jurnal Pembelajaran Dan Pengajaran Pendidikan Dasar, 2.
- [15] Wiliyanti, V., Latifah, S., Syarlisjiswan, M. R., & Kurnia, A. E. (2023, November). Pengembangan Media Pembelajaran Fisika Berbasis Mobile Learning Berbantuan Smart Apps Creator Pada Materi Fluida Dinamis. In Seminar Nasional Pembelajaran Matematika, Sains dan Teknologi (Vol. 3, No. 1, pp. 129-137).
- [16] Yuberti, Y., Wiliyanti, V., & Febriyani, A. (2023). Harmonizing STEM with Arts: Crafting an Innovative Physics Electronic Module on Vibration and Wave Concepts. *Jurnal Pembelajaran Fisika*, 11(2), 97-111.
- [17] Wiliyanti, V., Rakhmadi, R., & Octavia, S. (2023, September). Islamic Religious Education on the Technological Developments of the Era-Revolutionary Society 5.0. In *Iconais International Conference on Multidisciplinary Science Volume 2023* (Vol. 2023, pp. 647-657). Knowledge E.
- [18] Evi, N. R. (2023). PENGEMBANGAN MEDIA PEMBELAJARAN KOMIK BERBASIS PENDEKATAN KONTRUKTIVISME BERNUANSA ISLAMI MENGGUNAKAN APLIKASI CANVA PADA MATERI SISTEM TATA SURYA (Doctoral dissertation, UIN RADEN INTAN LAMPUNG).
- [19] Antika, F. (2023). PENGEMBANGAN E-MODUL PEMBELAJARAN FISIKA DENGAN PENDEKATAN STEAM (SCIENCE, TECHNOLOGY, ENGINEERING, ART AND MATHEMATIC) PADA MATERI GETARAN DAN GELOMBANG (Doctoral dissertation, UIN RADEN INTAN LAMPUNG).
- [20] Diani, R., Octafiona, E., Satiarti, R. B., Wiliyanti, V., & Janah, M. H. (2023, May). Physics learning with Brain-Based Learning (BBL) model and SAVIR approach: The effects on students' problem-solving ability. In AIP Conference Proceedings (Vol. 2595, No. 1). AIP Publishing.
- [21] Supardam, D., Prayitno, H., & Wimatra, A. (2021). Analysis of Personal Competency of Educators in Increasing Advantage of Taruna Students. AL-ISHLAH: Jurnal Pendidikan, 13(3), 3081-3084.
- [22] Prayitno, H., & Gauthama, W. (2022). Implementation of the Socata TBM-700 Aircraft as Learning Material for Live Aircraft Practical at Indonesia Civil Aviation Academy-Banyuwangi. IJISTECH (International Journal of Information System and Technology), 6(4), 412-418.
- [23] Wiliyanti, V., & Yudiarsah, E. (2018, October). Influence of temperature and base-pair twisting motion frequency on electron transport of guanine-quadruplex DNA molecule. In *AIP Conference Proceedings* (Vol. 2023, No. 1). AIP Publishing.
- [24] Wiliyanti, V., & Yudiarsah, E. (2017, July). Voltage dependency of transmission probability of aperiodic DNA molecule. In AIP Conference Proceedings (Vol. 1862, No. 1). AIP Publishing.
- [25] Octavia, S., Sari, D. M., & Wiliyanti, V. SENIOR TEACHERS'STRUGGLE IN INTEGRATING WITH TECHNOLOGY IN ONLINE CLASS DURING PANDEMIC.