Teachers' Perspectives on The Impact of The Digital Era on Education

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ABSTRACT

The presence of such widespread technological acceleration is expected to be able to solve various challenges and social problems by utilizing various innovations that were born in the era of the Industrial Revolution 4.0 to improve the quality of human life. Many changes in human convenience are brought about by technology, including economic, social, cultural, industrial, and even educational advancements. Therefore, the purpose of this research is to find out the changes and the impact of teaching methods felt by teachers as they transition from conventional to digital methods. The method used in this research is qualitative analysis, and it uses primary data as the data source. The results of this study indicate that teachers feel a positive impact from utilizing digital media on the learning process for students. The media used are Zoom meetings, e-learning, learning materials from YouTube, and learning materials from various sources on the internet. so that this method is felt to be more efficient, practical, creative, and innovative compared to conventional methods. Therefore, this paper concludes that the impact of digital media has a positive influence on the world of education, especially for teachers. So by continuing to utilize existing resources, it is hoped that the world of education can further maximize the potential of its students through efficient, creative, and innovative learning methods.

Keywords: digital, teachers, education, learning process.

ABSTRAK

Hadirnya percepatan teknologi yang meluas tersebut diharapkan mampu menyelesaikan berbagai tantangan dan permasalahan sosial dengan memanfaatkan berbagai inovasi yang lahir di era Revolusi Industri 4.0 untuk meningkatkan kualitas hidup manusia. Banyak perubahan dalam kenyamanan manusia yang disebabkan oleh teknologi, termasuk kemajuan ekonomi, sosial, budaya, industri, bahkan pendidikan. Oleh karena itu, tujuan penelitian ini adalah untuk mengetahui perubahan dan dampak metode pengajaran yang dirasakan guru pada masa transisi dari metode konvensional ke metode digital. Metode yang digunakan dalam penelitian ini adalah analisis kualitatif, dan menggunakan data primer sebagai sumber data. Hasil penelitian ini menunjukkan bahwa guru merasakan dampak positif dari pemanfaatan media digital terhadap proses pembelajaran siswa. Media yang digunakan adalah Zoom meeting, e-learning, materi pembelajaran dari youtube, dan materi pembelajaran dari berbagai sumber di internet. sehingga metode ini dirasakan lebih efisien, praktis, kreatif, dan inovatif dibandingkan dengan metode konvensional. Oleh karena itu, tulisan ini menyimpulkan bahwa dampak media digital memberikan pengaruh positif terhadap dunia pendidikan khususnya bagi guru. Maka dengan terus memanfaatkan sumber daya yang ada, diharapkan dunia pendidikan dapat lebih memaksimalkan potensi peserta didiknya melalui metode pembelajaran yang efisien, kreatif, dan inovatif.

Kata Kunci: digital, guru, pendidikan, proses pembelajaran

1. Introduction

Since the advent of the internet, the global world has entered a new phase of life where everyone can be connected to one another and not be bound by spatial dimensions. This causes changes in a culture to be faster and touch various fields and aspects of life. Advances in science and technology require all parties to be competent so as not to be eroded and crushed by the times. Digitalization in all parts of the world forces us to take part in it if we don't want to be left behind.

The presence of such widespread technological acceleration is expected to be able to solve various challenges and social problems by utilizing various innovations that were born in the era of the Industrial Revolution 4.0 to improve the quality of human life. Apart from having a positive impact, technology has also made many changes to human convenience, starting in the economic, social, cultural, industrial, and even educational worlds.

In the world of education, the Industrial Revolution 4.0, which presents various technological conveniences, also makes the role of education more strategic in preparing superior human resources (HR). The intended human resources cannot be produced by an instant process but rather by a continuous process. Schools, as the main ecosystem in which to build quality human resources, must be able to adapt to innovation and renewal models in teaching methods (Rahman, 2023).

Responding to increasingly complex educational challenges, teachers are required to innovate and update their methods for facilitating the learning process. According to Efendi and Wahidy (2019), the power of innovation and creativity in the field of education, especially in teaching, continues to develop and must be accompanied by the ability of educators to apply existing innovations. At any time, the development of various applications in gadgets and computers creates opportunities for teaching staff to innovate.This opportunity must be put to good use by educators by empowering IT-based learning applications (Rahman, 2023). Because that way, the learning process for students will also be better, so that they can maximize the goals of education itself.

A journal written by Adhitya Amarulloh, Endang Surahman, and Vita Meylani in 2020 with the title "Digitalization in the Learning Process and Its Impact on Student Learning Outcomes" suggests that there is a positive effect of using Android-based application media on student learning outcomes in class X MIPA SMA Negeri 2 Tasikamalaya. So the purpose of this research is to find out "changes in learning or teaching patterns by teachers from conventional to digital methods." Teachers should take advantage of existing technology as a support and to improve learning effectiveness as they enter a new world stage.

2. Literatur Study
The Impact of Revolution 4.0 on the World of Education

Education is in a period of knowledge with an extraordinary acceleration of increasing knowledge, thus requiring the actors to change the style of learning activities that must be in accordance with the needs of the knowledge age. Yuni Wijaya et al. explained in a journal article that learning must also be able to provide a more concrete design to go through challenges where students must be able to collaborate in creating solutions to lesson problems (Wijaya, 2015).

According to Triling and Fadel, which was explained in a journal, the following impacts or changes result from the birth of this era: a world that is shrinking because it is connected by technology and also transportation, emphasizing resource management, collaboration in environmental management, increasing privacy, security, and terrorists, as well as the economic need to compete in global competition, rapid growth for information (Wijaya, 2015).

From several explanations regarding the impact of 4.0, it can also be said that some of the positive impacts of the 4.0 revolution for the world of education are:
1. Not constrained by space or time.
2. Encourage students to be more creative, innovative, and productive.
3. Students are free to choose how they learn.
4. Learning is more effective because students are given more mature field experience.

3. **Method**

Types of research

The approach used in this study is a type of qualitative research approach. According to Tohirin (2013), this qualitative approach was taken because in this study, understanding the phenomenon of what was experienced by research subjects such as behavior, perceptions, motivations, actions, and others holistically and by means of descriptions in the form of words and language in a context, specifically natural According to Sugiono (2010), this qualitative approach was taken because in this study it sought to examine social phenomena in an atmosphere that took place naturally, not under controlled or laboratory conditions. Because the data obtained is in the form of words or actions, researchers use descriptive research, which is research in which data is collected in the form of words, pictures, and not numbers.

Source of data

The sources of data in this study consisted of two types: primary data and secondary data. Primary data sources are data sources obtained from the first party from which the data is generated. Meanwhile, secondary data sources are data sources obtained from the second party from which the data is generated (Bungi, 2001).

a. Primary data

In qualitative research, the primary data source is collected directly by the researcher from the first source or from the object to be studied (respondents), not through intermediaries. The primary data source obtained by the researcher from the main informants was obtained through the interview method by directly questioning the relevant parties (Suryabrata, 1987). by using a list of questions (a questionnaire) given directly to the respondents who were sampled. The sources of primary data or informants in this study were Mrs. Susanti Siregar and Mrs. Yessi A. Siregar, Mrs. Ayu Faradilla, Mrs. Event Seifti and finally Mrs. Nita Siregar. All informants work as teachers.

b. Secondary data

Secondary data is data that is used as a complement to and support for primary data (Suryabrta, 1987). The researcher obtained this information by reading textbooks and other literature on the research topic

Time of research implementation

This research was carried out on February 26, 2023, using the interview method with designated informants.

Research sites

The location of this research is on starban road, Polonia Medan.

4. **Result And Discussion**

In the world of education, various impacts from this era have been felt, namely shifts and changes in teaching patterns felt by teachers. Education in this era is critical to ensuring students have learning and innovation skills, skills in using information technology and media, and the ability to work and survive by using life skills.

The change in learning in question is the ease felt by the teacher in teaching patterns, which is caused by the presence of technology. One of the implementations of this technology is face-to-face contact between teachers and students. Mrs. Susanti Siregar, for example, can now use the Zoom Meeting application to teach her students if they have obstacles. However, after I learned about the Zoom Meeting application, I can still teach students online." Not only using Zoom meetings as a learning medium, Mrs. Susanti Siregar also often uses sources from YouTube to convey subject matter, which students can access when they have homework (PR). Mrs. Event Seifti and Mrs. Nita Siregar did the same thing in supporting the learning process.

The ease in teaching methods felt by the teacher was not only applied by Mrs. Susanti Siregar but also by Mrs. Yessi A. Siregar. Mrs. Yessi A. Siregar frequently employs digital media in her learning, "such as e-books, which she can directly upload into e-learning. I think it's more efficient, because that way the timeliness of collecting can also be maximized, because when the homework time is up, the e-learning system will automatically close."

Apart from using the e-learning system to maximize homework, Mrs. Yessi A. Siregar also often makes use of learning materials available on the internet. So Mrs. Yessi A. Siregar usually instructs students to look for material from sources on the internet regarding a learning topic and then learn it independently. Following that, Mrs. Yessi A. Siregar will ask each student to come forward and explain the material that has been understood. According to Mrs. Yessi A. Siregar, this method is more efficient, so that students, apart from being independent, can also maximize their creativity in finding abundant learning materials on the internet. Mrs. Ayu Faradilla also has the same opinion and method as Mrs. Yessi.

Education is now a major need in human life. Education will shape character and help a person improve their well-being. Through education too, it not only broadens your knowledge, but also provides a broad understanding of seeing the world and its changes, including technological changes. Technological transformation also needs to be considered because this development influences various aspects of life, including learning and education.

Technology has had a transformative impact on teaching practices in education. The most significant change is the shift towards more personalized, flexible and engaging learning environments. Transformations in learning and education that are changing due to the impact of technology can be seen in the following things:

Technology Enhanced Learning.
Educators use technology to enhance their lessons in a variety of ways. One of the most common ways is to use digital media such as Zoom Meetings, e-books, and online resources. This media can be used to present lesson material in an interactive and interesting way, as well as to involve students in discussions and group activities.

Distance and Independent Learning.
Technology has also expanded access to education by allowing students to learn remotely and independently. E-learning platforms allow students to access study materials anytime and anywhere. This is especially beneficial for students who live in remote areas or who have busy schedules.

Personalized Learning.
Technology can be used to facilitate personalized learning, allowing students to learn according to their abilities and learning styles. For example, adaptive learning apps can adjust course material and difficulty levels based on student performance.

The use of digital tools can increase student engagement by fostering interactive learning experiences and encouraging students to take ownership of their learning process.

Educator as Facilitator
In technology-enabled learning environments, teachers turn to facilitators, guiding students through their learning journey and providing support as students explore and engage with different learning opportunities. Teachers need to develop new skills to support technology-enabled learning, such as mentoring, collaborative, and technology skills.

Preparing Students for the Future
Education in the Industrial Revolution 4.0 era emphasizes the development of important skills such as flexibility, creativity, critical thinking and problem solving. Technology can help prepare students for these skills by providing learning experiences that are challenging and relevant to the real world. Overall, technology has had a significant positive impact on education. Technology has made education more accessible, personalized, and effective in preparing students to face the challenges and opportunities of the 21st century.

Technology Enhanced Learning
Technology has provided various new ways for educators to convey lesson material. Digital media such as Zoom Meetings, e-books, and online resources can be used to present lesson material in an interactive and interesting way, as well as to involve students in discussions and group activities.

Student freedom and engagement
Student engagement is an active process in which students participate in learning. Student involvement can be realized in various ways, such as:
1. Carry out active learning activities, such as discussions, presentations, or practicums.
2. Provide input or opinions about subject matter or curriculum.
3. Collaborate with other students to complete assignments.
1. Student input or opinions
Student input or opinions are very important in determining lesson material or curriculum. Student input or opinions can help educators to create learning materials or curricula that are more relevant to student needs.
2. Monitoring, guiding or providing direction
Monitoring, mentoring, or providing direction to students is important for student success. Monitoring can help educators to determine student learning progress. Guidance can help students overcome learning difficulties. Providing direction can help students to achieve their learning goals.e used to make learning more engaging and interesting.
With student involvement, monitoring, mentoring, or providing direction, educators can create a more effective and student-centered learning environment.

Although technology has provided many benefits to learning and education, there are also challenges to consider. One of the biggest challenges is the digital divide, which refers to the difference in access to technology between students who have and do not have access. Another challenge to consider is the risk of technology addiction and cyberbullying. It is important to educate students on how to use technology responsibly and safely. Despite the challenges, technology has the potential to fundamentally change learning and education. By using technology strategically, educators can create a more effective and engaging learning environment for all students.

Technological transformation in education has many benefits, but also presents a number of challenges. Some of the most common challenges are:

Digital divide: The digital divide is the difference in access to technology between certain individuals and groups. The digital divide can hinder access to quality education for disadvantaged individuals and groups.
Technology addiction: Excessive use of technology can lead to technology addiction. Technology addiction can disrupt the learning process and have a negative impact on physical and mental health.
Cyberbullying: Cyberbullying is harassment or intimidation carried out through digital media. Cyberbullying can have negative impacts on victims, such as anxiety, depression, and even suicidal thoughts.

To address these challenges, efforts are needed from various parties, including the government, schools and parents. The following are several ways that can be done to address the challenges of technological transformation in education:

1. Government: Governments can play a role in providing access to technology for all individuals, including disadvantaged individuals and groups. The government can also develop policies and regulations to protect students from the negative impacts of technology, such as technology addiction and cyberbullying.
2. Schools: Schools can play a role in increasing students' digital literacy, so that students can use technology responsibly and safely. Schools can also develop curricula that include technology as a learning tool.
3. Parents: Parents can play a role in supervising their children's use of technology. Parents can also set examples of positive technology use for their children.

5. Conclusion

From some of the descriptions and explanations above, the author suggests several things, namely:

First, in the world of education, the Industrial Revolution 4.0, which presents various technological conveniences, also makes the role of education more strategic in preparing superior human resources (HR).

Second, in order to respond to increasingly complex educational challenges, teachers must innovate and update their methods of facilitating the learning process.The power of innovation and creativity in the field of education, especially in teaching, continues to develop and must be accompanied by the ability of educators to apply existing innovations. At any time, the development of various applications in gadgets and computers creates opportunities for teaching staff to innovate.

Third, the existence of technological developments also has an impact on the learning process experienced by those who work as teachers. The changes that are meant by Mrs. Susanti Siregar, Mrs. Yessi A. Siregar, Mrs. Ayu Faradilla, Mrs. Event Seifti and Mrs. Nita Siregar are conveniences in teaching methods. Mrs. Susanti Siregar, Mrs. Yessi A. Siregar, Mrs. Ayu Faradilla, Mrs. Event Seifti and Mrs. Nita Siregar can utilize existing technology as learning media for students. The media used are Zoom meetings, e-learning, learning materials from YouTube, and learning materials from various sources on the internet. so that this method is felt to be more efficient, practical, creative, and innovative compared to conventional methods

References

Adillah, S. U., & Anik, S. (2015). KEBIJAKAN JAMINAN SOSIAL TENAGA KERJA SEKTOR INFORMAL BERBASIS KEADILAN SOSIAL UNTUK MENINGKATKAN KESEJAHTERAAN. *Yustisia Jurnal Hukum*, *4*(3). https://doi.org/10.20961/yustisia.v4i3.8688

Ahmadi, F. (2017). *GURU DI ERA DIGITAL (Pendekatan, Media, Inovasi)* (1st ed.). CV Pilar Nusantara.

Amarulloh, A., Surahman, E., & Meylani, V. (2020). DIGITALISASI DALAM PROSES PEMBELAJARAN DAN DAMPAKNYA TERHADAP HASIL BELAJAR PESERTA DIDIK. *BIOEDUKASI*, *11*(1), 1–10.

Azis, T. N. (2019). Strategi Pembelajaran Era Digital. *The Annual Conference on Islamic Educations and Social Science*, *1*(2), 308–318.

Harsanto, B. (2014). *Inovasi Pembelajaran Di Era Digital Menggunakan Google Sites Dan Media Sosial*. Universitas Padjadjaran, Unpad Press Bandung.

Hermawan, Y. D. (2020). Dampak Pandemi Covid-19 terhadap Eksistensi Pendidik di Era Digital. *QUALITY*, *8*(2), 303. https://doi.org/10.21043/quality.v8i2.8182

Nasrullah, N., & Rahman, A. W. (2023). Digitalisasi Pembelajaran di Sekolah. *Journal of Education*, *5*(2), 5238–5246.

Prijanto, J. H. (2017). Panggilan Sebagai Guru Kristen Wujud Amanat Agung Yesus Kristus Dalam Penanaman Nilai Alkitabiah Pada Era Digital [A Christian Teacher's Calling in Response to Jesus Christ's Great Commission in Instilling Biblical Values in a Digital Era]. *Polyglot: Jurnal Ilmiah*, *13*(2), 13. https://doi.org/10.19166/pji.v13i2.325

Sugihartati, R. (2014). *Perkembangan masyarakat informasi & teori sosial kontemporer* . KENCANA.

Suryana, A. (2007). Tahap-Tahapan Penelitian Kualitatif. *Fakultas Ilmu Pendidikan Universitas Pendidikan Indonesia*, 5–10.

Tohirin. (2013). *Metode Penelitian Kualitatif Dalam Pendidikan Dan Bimbingan Konseling*. PT Raja Grafindo Persada.

Yadewani, D., Arief, M. L., & Mursalini, W. I. (2020). PENGARUH PEMANFAATAN PLATFORM SOSIAL MEDIA PADA ERA DIGITAL TERHADAP PRESTASI MAHASISWA. *Jurnal Apresiasi Ekonomi*, *8*(3), 521–527. https://doi.org/10.31846/jae.v8i3.333