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Analysis of Learning in Implementing Digital Technology Based on Power Point at SD Muhammadiyah Karangkajen IV

Lovandri Dwanda Putra[1], Cintia Maharani Putri[2], Razita Masturah[3], Bagas Dwi Setiawan[4]
[1,2,3,4] Universitas Ahmad Dahlan, Sleman, Indonesia
[1] lovandri.putra@pgsd.uad.ac.id
[2] cintiamaharaniputri617@gmail.com
[3] razitamasturah@gmail.com
[4] bagasdwisetiawan12@gmail.com

ABSTRACT

Technology is the result of knowledge development in the field of education. Education is an essential part of improving life and nation-building. Effective education involves actively engaging students and developing their skills while learning in the classroom. Our research aims to analyze learning through the implementation of digital technology in the fourth-grade class at SD Muhammadiyah Karangkajen IV. We used a qualitative descriptive research method, utulizing classroom action research techniques,and conducted interviews with the fourth-grade homeroom teacher. Based on the research conducted, students applied learning theories using visual and audiovisual media during the teaching and learning process. As a result, 75% of the total number of fourth-grade students understood the subject matter and utilized the Power Point media optimally. The implementation of digital technology in SD Muhammadiyah Karangkajen IV can enhance students' quality and learning development, leading to increased focus, concentration, and motivation due to the engaging learning content presented through Power Point.

Keywords: Digital technology, Media, Learning

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Corresponding Author:
Lovandri Dwanda Putra,
Universitas Ahmad Dahlan,
Mlati Dukuh, RT013 RW005 Sendangadi, Mlati, Sleman 55288, DI Yogyakarta.
lovandri.putra@pgsd.uad.ac.id

1. INTRODUCTION

Education that holds meaning is one where students learn actively, creatively, and actively engage in classroom learning. Schools and teachers must encourage students to develop their potential, thus, utilizing the technology available in the current era as a learning medium (Ali Mustadi, 2020). The use of learning media captures students' attention during lessons to achieve learning objectives (Muthoharoh, 2019). The role of teachers is changing in today's context. Teachers are no longer just knowledge and information providers, but their role will evolve with the presence of technology in the future. The role of teachers will change if they choose not to adapt (Rahayuningsih & Muhtar, 2022).

Education that holds meaning is one that is effective in encouraging students to learn actively, creatively and be engaged in the learning process at school. Teachers should help students sharpen their potential, and to achieve that, schools and teachers can leverage the available technology in this era as a medium for learning (Ali Mustadi, 2020). Using instructional media should captivate students' attention during the learning process to achieve learning objectives (Muthoharoh, 2019). Currently, the role of teachers is evolving. Teachers are no longer just knowledge and information providers; their role will change with the presence of technology in the future. If teachers choose not to adapt, their roles will change (Rahayuningsih & Muhtar, 2022).

In enhancing the education system in Indonesia, the Ministry of Education and Culture (Kemedikbud) implemented the "Merdeka Belajar" (Freedom to Learn) program. The concept of "Merdeka Belajar" was introduced by Mr Nadiem Anwar Makariem and aimed to improve students' personalities in line with cultural values, believing in God, being healthy, moral, competent, excellent, innovative, imaginative, independent, and responsible citizens (Karuniawati et al., n.d., 2022). Through the "Merdeka Belajar" concept, teachers are expected to enhance their potential in creating interesting, enjoyable, and meaningful learning activities. In preparing for the implementation of the "Merdeka" curriculum, school

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principals and teachers of grades 1 and 4 must participate in training to deepen their general and in-depth knowledge about the "Merdeka" curriculum (Metriana Tae & Ngono, n.d., 2022).

Technology development impacts the learning tools used during the educational process in schools. This explains the importance of utilizing technology in this global era (Sarbaini et al., n.d., 2020). According to research (Sarbaini et al., n.d., 2020) and citations (Harahap et al., 2021; Rambe et al., 2021), in addition to the advancement of knowledge and technology, the main task of teachers in education is to create an imaginative learning atmosphere, such as using attractive learning tools for students. Besides learning media, teachers can also use and leverage digital-based technology. Various innovative digital learning media can make the learning process more effective and efficient (Hidayat & Khotimah, n.d., 2019).

Learning media is the key to successful classroom learning (Portanata et al., n.d., 2017). Engaging learning media are based on analyzing learning needs and characteristics, developing learning, and achieving the learners' success. Learning media are essential for implementing education and play a role as innovative providers (Rahma et al., 2023). As teachers, they must determine and apply learning concepts that align with students' characteristics to achieve learning objectives and enhance students' understanding of the subject matter and academic achievement (Sarbaini et al., n.d., 2020). According to research (Sarbaini et al., n.d., 2020) and citation (Tiar, 2020), in the use of learning media in the digital era, teachers need to be digitally literate to effectively and efficiently support the learning process, making it easily understandable for students.

Using digital technology as a learning tool in the classroom can facilitate quick access to information, such as finding teaching materials during the learning process. In the learning process, teachers utilize learning tools such as LCD projectors, teaching aids, and educational games to present materials to students. The aim is to make it easier for students to understand the subject matter presented by the teacher during the classroom learning process (Wilma Khairunnisa, 2020).

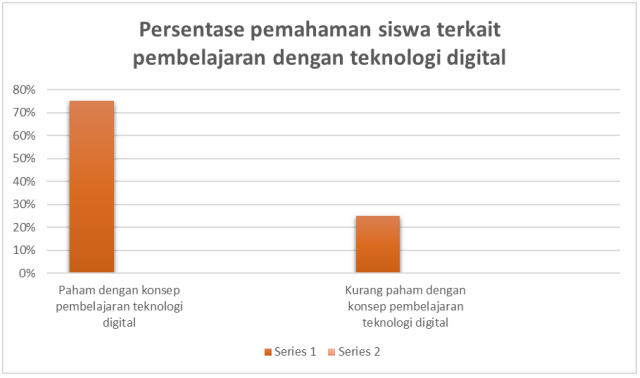
2. RESEARCH METHOD

This research was conducted using a qualitative descriptive technique. In the book (S.I.K., 2021), the author referred to the writing of (Sugiyono: 2015:15), stating that the qualitative descriptive method is a procedure based on the philosophy of direct research by observing the object of interest directly. This method is used to examine the object's condition with a comparison to experiments, where the researcher is the key instrument, and data is collected using appropriate snowball technology and combined techniques of qualitative data analysis, emphasizing the research results. The data collection method we used at SD Muhammadiyah Karangkajen IV was through interviews.

Table 1. Student Comprehension Index Score

Number of Students	Comprehend	Do not Comprehend
21 Students	75%	25%

Fig 1. Percentage of Difference in Students' Comprehension Abilities



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3. RESULTS AND DISCUSSION

Our research aims to analyze the learning process with the implementation of digital technology in the 4th grade at SD Muhammadiyah Karangkajen IV. The school where our research was conducted follows the "Merdeka" curriculum. In the "Merdeka" curriculum program, there are combined subjects, namely Science (IPA) and Social Studies (IPS), which are taught as Integrated Science and Social Studies (IPAS). In this case, Science is taught in the first semester, and Social Studies is taught in the second semester.

From the results of this research, it can be observed that digital technology is used in alignment with the subject matter. For example, when learning about the water cycle. During the interview, we asked the teacher about the use of digital technology in the 4th-grade learning process at SD Muhammadiyah Karangkajen IV. The teacher responded that learning with digital technology helps students better understand and grasp the learning material. The use of digital technology at SD Muhammadiyah Karangkajen IV can enhance the quality and learning development of students, making them more focused on learning.

Based on the interview results, the teacher also explained the challenges in implementing digital technology in the learning process: limited school facilities, including LCD projectors and laptops. The utilization of LCD projectors makes students' learning more engaging. This is because primary school children are highly curious and need a learning model that can enhance their interest in learning (Nurfadhillah et al., 2021). According to the explanation from the source, the school only has 2 LCD projectors that are also shared among other classes. However, the school is committed to improving the learning process by implementing digital technology in the future to make it more optimal and beneficial for students to concentrate and be motivated in learning.

Teachers choose media as a tool when delivering information and learning materials to students to help them acquire knowledge concretely (Wibowo et al., 2022). According to this research, most educators utilize digital technology, such as PowerPoint, to achieve the learning objectives, such as delivering material to students. The use of media like this can enhance students' creativity, as elementary school students have a strong ability to grasp learning material when teachers present interesting things (Hardiyanti et al., 2020).

Improving the utilization of technology in this modern era can be applied in education as a means to facilitate the learning process. The use of digital technology has been proven to enhance the quality and creativity of students during direct learning, as well as increase concentration and motivation due to the enjoyable learning content that prevents students from feeling bored during lessons. Utilizing learning media can ease students' knowledge acquisition regarding the learning content, thereby maximizing their concentration while learning (Heryani et al., 2022).

External factors present challenges for teachers when implementing digital technology in the classroom, such as inadequate facilities and infrastructure. For instance, in Indonesia, there are limitations in supporting facilities like computers (Hainul Putra et al., n.d., 2019). The development of digital technology in education should be supported by all relevant institutions, including the government, school principals, teachers, and the community (Ambarwati et al., n.d., 2022). Based on the interviews conducted with the sources, one of the obstacles in the learning process at SD Muhammadiyah Karangkajen IV is the need for more supporting facilities from the school, such as laptops and LCD projectors, to present learning materials using PowerPoint media. Facilities are a crucial factor in implementing technology-based learning (Purnasari & Sadewo, 2021).

The media required by students nowadays provide significant means to illustrate situations that can inspire them to express ideas and opinions. These learning media are categorized based on the form of information used, such as visual media theory and audiovisual media theory. This categorization can serve as a reference for comparing the processes used to convey information and the ways in which sound or images can be obtained and received by students.

A. Visual Media

Based on the research (Sahuni et al., 2020) as cited by (Kustandi et al., 2021), visual media is one of the means that the human senses can perceive. The presence of visual media enables the implementation of learning to be well-directed.

Visual media involves the sense of sight and is further developed into two types of messages: verbal-visual and non-verbal visual messages (Inpres Tumpu Jaya I Kec Batui Selatan & Banggai, 2020). Verbal-visual messages are presented in the form of symbols, while non-verbal visual messages serve as substitutes for verbal language.

B. Audio Visual Media

The use of teaching materials in the form of audiovisual media serves as a medium for delivering content through sight and hearing senses to enhance the conditions that enable students to receive knowledge and information easily. According to research (Saputro et al., 2021), audiovisuals are devices that require a projector to present both images and sound.

Audiovisuals are employed in student learning, allowing them to become interested in the subject matter, and the lessons can stimulate students' perspectives, thus increasing their motivation to learn (Dian & Gabriela, 2021).

4. CONCLUSION

Based on the research results, it is evident that the use of digital technology in the learning process at SD Muhammadiyah Karangkajen IV is quite optimal. The utilization of technology-based learning media, such as PowerPoint, can enhance the quality and interest of students in learning, with a percentage of 75% of students understanding the concept of technology-based learning with visual and audiovisual media. It is hoped that in the future, teachers will continue to develop and implement technology-based learning concepts in elementary schools (SD). It is also hoped that the school will improve learning facilities to ensure they are sufficient and suitable for the student's learning process.

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REFERENCES

[1] Ali Mustadi, dkk U. P. 17 D. 2020. (2020). *Landasan Pendidikan Sekolah Dasar*. UNY Press.
[2] Ambarwati, D., Wibowo, U. B., Arsyiadanti, H., & Susanti, S. (t.t.). Studi Literatur: Peran Inovasi Pendidikan pada Pembelajaran Berbasis Teknologi Digital 2022. *Jurnal Inovasi Teknologi Pendidikan*, *8*(2), 173–184. https://doi.org/10.21831/jitp.v8i2.43560
[3] Dian, N., & Gabriela, P. (2021). *PENGARUH MEDIA PEMBELAJARAN BERBASIS AUDIO VISUAL TERHADAP PENINGKATAN HASIL BELAJAR SISWA SEKOLAH DASAR* (Vol. 2, Nomor 1).
[4] Hainul Putra ---, Z., Digital, T., Internal, F., Eksternal, F., Belajar Matematika Online, S., & Hainul Putra, Z. (t.t.). *TANTANGAN DAN PELUANG GURU SD DALAM PEMBELAJARAN MATEMATIKA BERBASIS TEKNOLOGI DIGITAL DI ERA REVOLUSI INDUSTRI 4.0 2019*. https://doi.org/10.33578/psn.v1i1.7766
[5] Hardiyanti, A, Studi Pendidikan Guru Sekolah Dasar, P, & Keguruan dan Ilmu Pendidikan, F. *EFEKTIVITAS PENGGUNAAN MEDIA POWER POINT TERHADAP HASIL BELAJAR IPS KELAS V SD 128 TURUNGAN BERU KECAMATAN HERLANG KABUPATEN BULUKUMBA 2020*. http://journal.unismuh.ac.id/index.php/jrpd
[6] Heryani, A, Pebriyanti, N, Rustini, T, & Wahyuningsih, Y. PERAN MEDIA PEMBELAJARAN BERBASIS TEKNOLOGI DALAM MENINGKATKAN LITERASI DIGITAL PADA PEMBELAJARAN IPS DI SD KELAS TINGGI 2022. *JURNAL PENDIDIKAN*, *31*(1), 17. https://doi.org/10.32585/jp.v31i1.1977

[7] Hidayat, N., & Khotimah, H. (t.t.). *PEMANFAATAN TEKNOLOGI DIGITAL DALAM KEGIATAN PEMBELAJARAN 2019*. http://journal.unpak.ac.id/index.php/jppguseda,
[8] Inpres Tumpu Jaya I Kec Batui Selatan, G. S., & Banggai, K. (2020). *PENGGUNAAN MEDIA VISUAL UNTUK MENINGKATKAN HASIL BELAJAR MATA PELAJARAN IPS SISWA KELAS V SD INPRES TUMPU JAYA I I Ketut Selamet* (Vol. 7, Nomor 2).
[9] Karuniawati, A., Guru, P., & Dasar, S. (t.t.). *Prosiding Seminar Nasional Pendidikan Guru Sekolah Dasar 2022*.
[10] Kustandi, C., Farhan, M, Zianadezdha, A, Fitri, A. K, & L, N. A. PEMANFAATAN MEDIA VISUAL DALAM TERCAPAINYA TUJUAN PEMBELAJARAN 2021. *Akademika*, *10*(02), 291–299. https://doi.org/10.34005/akademika.v10i02.1402
[11] Lestari, S. (2018). *PERAN TEKNOLOGI DALAM PENDIDIKAN DI ERA GLOBALISASI*. *2*(2). https://ejournal.unuja.ac.id/index.php/edureligia
[12] Metriana Tae, O., & Ngongo, A. A. (t.t.). *Prosiding Seminar Nasional Pendidikan Guru Sekolah Dasar 2022*.
[13] Muthoharoh, M. (2019). *Media PowerPoint dalam Pembelajaran* (Vol. 26, Nomor 1).
[14] Nurfadhillah, S., Damayanti Tantular, L., Syafitri, H. A., Fauzan, M. I., Haq, A. S., & Tangerang, U. M. ANALISIS PENGEMBANGAN MEDIA INTERAKTIF BERBASIS POWER POINT PADA PEMBELAJARAN JARAK JAUH DI MI DARUSSAMAN 2021. Dalam *PENSA: Jurnal Pendidikan dan Ilmu Sosial* (Vol. 3, Nomor 2). https://ejournal.stitpn.ac.id/index.php/pensa
[15] Portanata, L., Lisa, Y., Sairo Awang STKIP Persada Khatulistiwa Sintang, I., & Pertamina-Sengkuang, J. (t.t.-a). *ANALISIS PEMANFAATAN MEDIA PEMBELAJARAN IPA SD 2017*.
[16] Purnasari, P. D., & Sadewo, Y. D. (2021). Strategi Pembelajaran Pendidikan Dasar di Perbatasan Pada Era Digital. *Jurnal Basicedu*, *5*(5), 3089–3100. https://doi.org/10.31004/basicedu.v5i5.1218
[17] Rahayuningsih, Y. S, & Muhtar, T. (2022). Pedagogik Digital Sebagai Upaya untuk Meningkatkan Kompetensi Guru Abad 21. *Jurnal Basicedu*, *6*(4), 6960–6966. https://doi.org/10.31004/basicedu.v6i4.3433
[18] Saputro, K. A, Sari, C. K, & Winarsi, S. Peningkatan Keterampilan Membaca Dengan Menggunakan Media Audio Visual Di Sekolah Dasar 2021. *EDUKATIF: JURNAL ILMU PENDIDIKAN*, *3*(5), 1910–1917. https://doi.org/10.31004/edukatif.v3i5.690
[19] Sarbaini, W., Bukit, S., & Khasanah, S. N. (t.t.). *PROSIDING PENDIDIKAN DASAR URL: https://journal.mahesacenter.org/index.php/ppd/index Analisis Penggunaan Media Pembelajaran Berbasis Teknologi Digital di SDN 101835 Bingkawan Kecamatan Sibolangit 2020*. https://doi.org/10.34007/ppd.v1i1.164
[20] S.I.K., M. S. A. Zuchri. H. D. (2021). *Metode Penelitian Kualitatif* (. SE, Rapanna Patta. Dr Si. M, Ed.). Syakir Media Press.
[21] Syahid, A. A, Hernawan, A. H, & Dewi, L. (2022). Analisis Kompetensi Digital Guru Sekolah Dasar. *Jurnal Basicedu*, *6*(3), 4600–4611. https://doi.org/10.31004/basicedu.v6i3.2909
[22] Wibowo, A, Rahman, A, Yus, A., & Simaremare, A. Analisis Efektifitas Media Pembelajaran PKN Terhadap Gaya Belajar Kelas III SD 2022. Dalam *Journal of Educational Analytics (JEDA)* (Vol. 1, Nomor 1). https://journal.formosapublisher.org/index.php/jeda
[23] Wilma Khairunnisa, W. K. H. M. H. H. PERANAN TEKNOLOGI DAN MEDIA PEMBELAJARAN BAGI SISWA SEKOLAH DASAR DI DALAM PEMBELAJARAN PENDIDIKAN KEWARGANEGARAAN 2020. *Jurnal Pendidikan Kewarganegaraan Undiksha*, *a Vol. 8*(No. 2).