

Digital Learning Management as an Option for Future Learning

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Abstract

This study aims to describe how to manage digital learning media that are widely used in education. This is literature review research about learning management using digital media in learning activities. In the research there are three problem formulations (1) Why should learn use digital media? (2) How to manage learning? (3) How the results were achieved. The results of this study indicate that the development of digital technology makes a major contribution to learning. Since the COVID-19 pandemic, all teachers have used digital platforms as learning media. In practice, before the learning process, the teacher makes arrangements with the steps of planning, implementing and evaluating. While the results achieved are digital media greatly facilitate teachers in the learning process. These facilities include easy access for teachers and students, easy access to learning examples and practices, low cost, unlimited learning by space and time, increasing student motivation, students learning independently to find the latest learning materials and getting fun learning.

Keywords

Digital learning, Management and Future Learning.

1. Introduction

The Covid-19 pandemic that hit the world at the end of 2019 was a period that has changed all aspects of human life, including economic, political, social, and cultural aspects of society at all levels. Behind the incident, the community was forced to move to make various innovations to survive, one of which was in the field of education, where the world of education also innovated to keep up with changes in learning that had been done face-to-face to be converted into an online system (in a network) by utilizing internet technology.

The Indonesian Ministry of Education and Culture has issued Circular Number 3 of 2020 concerning Prevention of Covid-19 in Education Units, followed by Circular Letter Number 36962/MPK A/HK/2020 concerning online learning as one of the efforts to prevent the spread of Covid-19 which prohibits schools from spreading. And universities carry out face-to-face learning (Wajdi Kuswandi et al. 2020).

In this context, the role of digital learning becomes very important to encourage students' interest in learning to learn wherever students are, using digital technology in the field of learning development and the world of work, data is integrated quickly into an online system. Internet based multimedia such as WhatsApp, Instagram, YouTube, Facebook, which originally only functioned as a medium for socialization and friendship, quickly turned into distance learning digital media (Thompson et al. 2019; Redmond et al. 2018). Digital learning combines visual and audio information that is used interactively by teachers and students.

Various studies have found that learning today is highly dependent on technology even long before Covid 19 hit the world, this supports the development of critical and creative thinking (Yang and Wu 2012). The learning theme is modified with various types of digital media such as images, audio, text, video, and music to accompany the video, and then viewed on a computer or on the web (Robin 2009). Digital learning is very effective in increasing students' interest and motivation towards learning, developing, and honing communication skills by contributing to the learning process. In this case, students learn and acquire 21st-century literacy skills (Robin 2006; Verdugo and

Belmonte 2007). Furthermore, the importance of providing education through digital media in a pandemic situation is an urgent matter to fulfill educational needs and increase skills.

The role of digital learning in expanding access to education, developing the skills and knowledge needed by students, and encouraging the ability to use digital tools to attract higher learning interest. Digital tools are seen as cost-effective and flexible solutions that can be scaled up to provide learning opportunities for students. Currently, schools and colleges are increasingly using e-learning as an important way to bring flexible learning to students and students. It is recognized that the use of technology and the internet is not limited to higher education and is useful for developing useful skills and competencies.

Europe specifically mentions the use of technological advances, such as the internet, smartphones, and interactive learning, as valuable tools for making integration and learning easier in *Communication Lives in Dignity: From Aid Dependence to Self-Reliance* (European Commission 2016). In parallel, a large number of initiatives developed, both bottom-up and government/donor-supported, and involved different stake-holders (Castano 2018).

Self-directed learning and digital tool use skills are recognized as two important components for participation in learning today. However, in practice, it still requires additional guidance in the use of digital learning resources, due to the fact on the ground that face-to-face learning and learning that has been taking place so far are different from online learning. Barriers that often arise are because access and networks interfere with their learning, Mason and Buchmann (2016) suggest that outreach plans and support structures in independent learning are very important when targeting learning completeness.

Apart from the advantages of digital learning, several studies have found that using digital learning types such as zoom applications, google meet, classroom, moodle, and similar e-learning applications, online learning resources are not enough to be echoed but must be supported by design principles. instructional and other services that play an important role, especially the role of teachers in designing learning management.

The purpose of this study is to find out the reasons for the importance of using digital learning, what are the stages of its use, and the success factors that have been achieved. The research questions that serve as guidelines in writing this article are as follows:

Why should learning use digital media?

How to manage learning?

How were the results achieved?

2. Method

This study uses a literature review research method. The use of qualitative techniques is based on the constructivist paradigm, which is considered adequate due to the novelty of the topic and facts. This research is transformative rather than building a new theory. It aims to generate knowledge that can be used to adapt new types of learning by using technology to suit the needs and preferences of current learners.

3. Discussion

Why Digital Learning?

The pandemic situation has changed the way of face-to-face learning with online learning (on a network), so the alternative of digital learning by using a smartphone is an alternative solution for the safety of all parties. Basically, digital learning requires not cheap costs because you have to prepare digital equipment such as laptops, smartphones, tablets, applications, and internet quotas, but the need for health and safety is an important priority at this time.

Schneider and Meirovich (2020) stated that innovative applications and new teaching paradigms can adapt to changes as a result of the emergence of Covid-19. So educational institutions not only focus on knowledge transfer but also act as agents of cultural change that contribute to providing solutions and making the right decisions. Digital Learning is currently appropriate for various reasons due to several factors as follows:

Tabel 1. Advantages of using digital learning

No	Indicator	Description
1	Safety	Maintaining the safety and health of students from the Covid-19 outbreak
2	The place	Can be accessed wherever students are
3	Time	A mutual agreement can be made between the teacher and students
4	Cost	The efficiency of education administration budget
5	Learning outcomes	Learning outcomes can still be monitored, evaluated, and more quickly and accurately

Digital Learning Media Management

Digital learning was initiated long before the COVID-19 outbreak hit the world. Yoon & Lee (2009) explained about digital learning which was first put forward by Jay Cross in 1999 in the form of E-Learning which resulted in a change in teaching methods from traditional to modern learning, such as internet-based training, web-based training, or online learning, network learning, distance learning. The development of science and technology has removed the barriers of space and time. We can get and convey knowledge anytime, anywhere. (Horton 2000)

Doris Holzberger et. al. (2013) explained that learning is delivered in the form of digital media that can contain text or images via the Internet and interesting learning content and teaching methods are intended to improve students' abilities and aim to improve teaching services and teaching effectiveness.

There are several analyzes related to digital learning. *First*, digital learning has actually started and was known long before covid 19 hit, as evidenced by several studies that support digital learning which began in the 2000s. Aktas & Yurt (2017) use digital stories to improve academic achievement, motivation, and retention of students about new Turkish literature. Even digital stories have advantages at all levels of education from preschool to college (Foley 2013; Kocaman 2015; Karakoyun 2014; Blau and Shamir 2017). So digital learning during the covid -19 pandemic is not new but rather a new habit (habit) for people to be able to align themselves with the times.

Second, learnings using smartphone-assisted E-learning developed as teaching materials at this time are digital learning innovations to answer the problem of learning barriers during a pandemic. It is known that learning outcomes using E-learning media improve three student competencies, namely: attitudes, knowledge, and skills. This supports digital learning in the 4.0 revolution era. (Hidayati 2019; Mulhayatitah et al 2019; Ismiarti 2020; Mugiri 2020; Mujizah 2020; Hasti, 2021).

Third, digital learnings have an effect on children's learning motivation during the pandemic, it will also affect their learning outcomes. This is expected to become a trend when face-to-face learning is allowed, namely face-to-face learning supported by digital learning media and utilizing learning advantages to develop practical teaching strategies for effectiveness. Teaching that was previously designed by the teacher in lesson planning, implementation, and evaluation as part of teaching management.

The three points above emphasize to teachers the importance of making connections between technological, pedagogical, and content types of knowledge to optimize the integration of technological tools to enhance student-centered learning pedagogy (Blau et al. 2014; Koh et al. 2014). These connections are important to address effectively the cognitive and organizational aspects of technology integration into the school system and to cover the entire range of knowledge that teachers must master (Unger and Alklai 2014). One of the most important manifestations of a teacher's professional knowledge is the ability to adapt teaching activities and mastery of technology.

Digital Learning Outcomes

From the discussion of various studies, it can be seen that the change from traditional teaching and learning methods to digital learning is the right regulation in dealing with covid 19, in addition to cutting the distance, time, and place of learning that can be accessed from anywhere and wherever students are. Student responses and learning outcomes can also be measured (Kallou and Kikilia 2021; Papadakis et al. 2017). Better learning outcomes can be achieved

because they actively contribute to learning. Teachers mobilize the active participation of all students through visualizations that they find interesting, exciting, and ultimately functional because it makes it easier for them to understand different concepts, is fun, and is worthy of future learning.

The development of digital learning becomes valuable and necessary for future learning because it presents teaching innovations and the use of modern teaching methods, especially distance teaching. (Papadakis et al. 2021). There is a change in the way educators teach, namely combining teaching with innovation and technology. Educators must be able to adapt to technology in the teaching and learning process (Haas et al. 2018).

Tabel 2. Response to the use of digital learning

No	Indicator	Description
1	Teacher Response	<ul style="list-style-type: none"> ✓ Adapt to change traditional learning methods into modern learning using digital technology ✓ Develop self-potential to master E-learning applications ✓ Carry out teaching planning, teaching implementation, and evaluation digitally
2	Student Response	<ul style="list-style-type: none"> ✓ More interested in digital-based learning because it's fun ✓ Can follow lessons wherever they are ✓ Can find out the results of his study quickly
3	Parent's Response	<ul style="list-style-type: none"> ✓ Can supervise their children's learning activities directly ✓ Engage in learning activities by assisting children in learning ✓ Children's learning outcomes can be known immediately

The design of digital learning materials creates professional challenges for educators, this affects educators to develop the ability to integrate technology in teaching and learning in a meaningful way, thereby increasing the professional self-efficacy of educators. On the other hand, school policymakers encourage educators to communicate online both with students and parents, educators gradually acquire skills to communicate effectively (Blau and Shamir 2017).

Three general forms of interaction in online learning namely between students-students (student-student), students-educators (student-teacher), and students-material/content (student-content). Then developed again educators (teacher-teacher), educators-material/content (teacher-content), and materials (content-content), illustrated as follows.

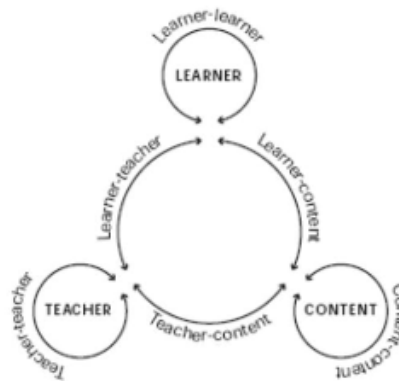


Figure 1. Interaction of online learning (Aziz, 2015)

4. Conclusion

Developing digital learning as the main platform for teaching and learning and interacting is recognized as a fun, easy, useful, and effective learning system. It is known from several studies that digital learning was carried out before covid-19 hit the world, and finally, digital learning was developed and realized as a whole to anticipate the spread of covid-19. Educators from elementary school to university levels are starting to adapt to digital learning both through social media and e-learning by developing competencies in understanding the use of digital tools and implementing digital-based learning management, starting from lesson planning, implementation, and evaluation, the content has been adjusted with digital media.

After Covid-19 began to subside, classical learning was restarted, so from this article and several studies that have been reviewed, it can be recommended that future learning can be done by combining classical learning and digital learning. Digital media can help students to access various teaching materials that really support learning, so that meaningful and effective learning can be achieved.

References

- Aktas, E., and Yurt, S. U., Effects of digital story on academic achievement, learning motivation and retention among university students, *International Journal of Higher Education*, vol. 6, no. 1, pp. 180-196, 2017.
- Aziz, M. A. A., Proven methods to enhance e-learning process using social media (materials, interaction, and competitive advantage, *International Journal of e-Education, e-Business, e-Management and e-Learning*, vol. 5, no. 1, pp. 40 – 46, 2015
- Blau, I., and Shamir-Inbal, T., Digital competences and long-term ICT integration in school culture: The perspective of elementary school leaders, *Education and Information Technologies*, vol. 22, no. 3, pp. 769-787, 2017.
- Blau, I., Grinberg, R., & Shamir-Inbal, T., Pedagogical perspectives and practices reflected in metaphors of learning and digital learning of ICT leaders, *Computers in the Schools*, vol. 35, no. 1, pp. 32-48, 2018.
- Castaño-Muñoz, J., Colucci, E., and Smidt, H., Free digital learning for inclusion of migrants and refugees in Europe: A qualitative analysis of three types of learning purposes, *International Review of Research in Open and Distributed Learning*, vol. 19, no. 2, 2018.
- Foley, L. M., *Digital Story telling in Primary grade classrooms*, Arizona State University, 2013.
- Haas, M., Ebner, M., and Schön, S., Practical usage of OER material in the EFL classroom, *In Advanced Learning and Teaching Environments* (pp. 123-136). InTech - Open Access Publisher, (2018), <https://doi.org/10.5772/intechopen.72452>
- Harti, H., Pengembangan E-modul interaktif materi negosiasi bisnis mata pelajaran komunikasi bisnis kelas X Bdp Smk Negeri 1 Bojonegoro, *Edunomic: Jurnal Ilmiah Pendidikan Ekonomi Fakultas Keguruan dan Ilmu Pendidikan*, vol. 9, no. 2, pp. 168-182, 2021.
- Hidayati, N., & Irmawati, F., Analisis kebutuhan pembelajaran era digital 4.0: multimedia anatomi fisiologi manusia dengan model stem education di program studi pendidikan biologi IKIP Budi Utomo Malang, *In Proceeding Biology Education Conference: Biology, Science, Enviromental, and Learning*, vol. 16, no. 1, pp. 110-117, 2019.

- Horton, W., *Designing Web-based Training*, New York: John Wiley and Sons, 2000.
- Ismiarti, D. R., & Nikmah, C., Pengembangan e-modul otomatisasi tata kelola kepegawaian berbasis android pada materi semester gasal kelas XI OTKP 2 di SMK PGRI 2 Sidoarjo, *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, vol. 9, no. 1, pp. 28-38, 2020.
- Joo, Y. J., Lim, K. Y., and Kim, E. K., Online university students' satisfaction and persistence: examining perceived level of presence, usefulness and ease of use as predictors in a structural model, *Computers & education*, vol. 57, no. 2, pp. 1654-1664, 2011.
- Kallou, S., and Kikilia, A., A transformative educational framework in tourism higher education through digital technologies during the COVID-19 pandemic, *Advances in Mobile Learning Educational Research*, vol. 1, no. 1, pp. 37-47, 2021.
- Karakoyun, F., *Çevrimiçi Ortamda Oluşturulan Dijital Öyküleme Etkinliklerine İlişkin Öğretmen Adayları ve İlköğretim Öğrencilerinin Görüşlerinin İncelenmesi*, Doctoral dissertation, Anadolu University, Turkey, 2015.
- Kocaman-Karoglu, A., Telling Stories Digitally: an Experiment With Preschool Children, *Educational Media International*, vol. 52, no. 4, pp. 340-352, 2015.
- Koh, J. H. L., Chai, C. S., and Tay, L. Y., TPACK-in-Action: unpacking the contextual influences of teachers' construction of technological pedagogical content knowledge (TPACK), *Computers & Education*, vol. 78, pp. 20-29, 2014.
- Lee, B. C., Yoon, J. O., and Lee, I., Learners' acceptance of e-learning in South Korea: theories and results, *Computers & education*, vol. 53, no. 4, pp. 1320-1329, 2009.
- Lin, M. H., & Chen, H. G., A study of the effects of digital learning on learning motivation and learning outcome. *Eurasia Journal of Mathematics, Science and Technology Education*, vol. 13, no. 7, pp. 3553-3564, 2017.
- Mason, B., & Buchmann, D., ICT4Refugees: A report on the emerging landscape of digital responses to the refugee crisis, *Verlag nicht ermittelbar*, 2016.
- Molnár, G., Teaching and Learning in modern digital Environment, In *2015 IEEE 13th international symposium on applied machine intelligence and informatics (SAMII)*, pp. 213-217, IEEE, 2015.
- Mugiri, W. L., *Pengembangan Lembar Kerja Peserta Didik (LKPD) Digital Berbasis Experiential Learning untuk Meningkatkan Keterampilan Berpikir Kritis Peserta Didik pada Materi Gelombang Bunyi*, (Doctoral dissertation, UIN Sunan Gunung Djati Bandung), 2020.
- Mulhayatiah, D., Purwanti, P., Setya, W., Suhendi, H. Y., Kariadinata, R., & Hartini, S., The impact of digital learning module in improving students' problem-solving skills, *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, vol. 8, no. 1, pp. 11-22, 2019.
- Muzijah, R., Wati, M., and Mahtari, S., Pengembangan e-modul menggunakan aplikasi Exe-Learning untuk melatih literasi sains, *Jurnal Ilmiah Pendidikan Fisika*, vol. 4, no. 2, pp. 89-98, 2020.
- Papadakis, S., Kalogiannakis, M., and Zaranis, N., Teaching mathematics with mobile devices and the Realistic Mathematical Education (RME) approach in kindergarten, *Advances in Mobile Learning Educational Research*, vol. 1, no. 1, pp. 5-18, 2021.
- Papadakis, S., Kalogiannakis, M., Sifaki, E., & Vidakis, N., Access moodle using smart mobile phones, A case study in a Greek University, In *Interactivity, Game Creation, Design, Learning, and Innovation*, pp. 376-385, Springer, Cham, 2017.
- Redmond, C., Davies, C., Cornally, D., Adam, E., Daly, O., Fegan, M., & O'Toole, M., Using reusable learning objects (RLOs) in wound care education: Undergraduate student nurse's evaluation of their learning gain, *Nurse Education Today*, vol. 60, pp. 3-10, 2018.
- Robin, B. R., The educational uses of digital storytelling, In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2006*, pp. 709-716, Chesapeake,VA: AACE, 2006.
- Robin, B. R., and McNeil, S. G., Digital story telling, *The International Encyclopedia of Media Literacy*, pp. 1-8, 2019.
- Shamir-Inbal, T., & Avidov-Ungar, O., Empowerment patterns of leaders in ICT and school strengths following the implementation of national ICT reform, *Journal of Information Technology Education*, vol. 12, pp. 141-158, 2013.
- Thompson, M., Owho-Ovuakporie, K., Robinson, K., Kim, Y. J., Slama, R., & Reich, J., Teacher Moments: A digital simulation for preservice teachers to approximate parent-teacher conversations, *Journal of Digital Learning in Teacher Education*, vol. 35, no. 3, pp. 144-164, 2019.
- Verdugo, D. R. & Belmonte, I. A., Using digital stories to improve listening comprehension with Spanish young learners of English, *Language Learning & Technology*, vol. 11, no. 1, pp. 87-101, 2007.

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