



Digital Curriculum Facing Technological Challenges in Education

Dina Rahmadani S. Manopo^{1*}, Nur Amelia Arsyad², Imelda³, Sri Ade Putri Mahadjani⁴, Sabrian Suwel⁵, Syukria Sukma Pakaya⁶, Fikran Diange⁷, Rizkianto Giasi⁸, Nur Walida S. Tuna⁹, Marsellad.Gui¹⁰

Universitas Pohuwato

Corresponding Author: Dina Rahmadani S. Manopo manopodina@gmail.com

ARTICLE INFO

Keywords: Curriculum, Technology Challenges, Learning, Digital, Technology Integration

Received : 4 November

Revised : 19 November

Accepted: 21 December

©2023 Manopo, Arsyad, Mahadjani, Suwel, Pakaya, Diange, Giasi, Tuna, Gui: This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This research explores the challenges and opportunities associated with digital curriculum in the face of technology in learning context of the digital age in Indonesia. Using a mixed methods approach, the research combines qualitative and quantitative data from educators, policymakers, students and parents to gain comprehensive insights. The findings reveal the current state of technology integration, highlighting gaps in technology access and infrastructure. Addressing the digital divide and providing appropriate professional development for educators were identified as critical steps to unlocking the full potential of technology to improve education in Indonesia. Localization of digital content and the creation of inclusive, technology-driven learning environments are critical to preparing students for an increasingly technology-centric future

INTRODUCTION

The curriculum is a set or a system of plans and arrangements regarding learning materials that can be guided in teaching and learning activities, in essence the curriculum is a learning plan. Therefore, all parties involved and directly related to this curriculum function must understand it.

Digital curriculum is an approach to educational curriculum development that utilizes digital technology to deliver subject matter, facilitate learning, and measure student achievement. This involves the use of software, hardware, online platforms, and digital resources to enhance the learning experience. The digital curriculum can be tailored to student needs and allows access to a variety of learning resources flexibly (Jessica, A. 2020).

LITERATURE REVIEW

Technological challenges in the digital curriculum refer to barriers or problems that arise when technology is used in the educational process. These challenges can include limited access, unequal access, security and privacy issues, data privacy, adequate hardware and software, teacher training, evaluation and many other aspects that need to be considered in adopting this approach. In the face of these challenges, educators and stakeholders must work together to overcome these problems and ensure that digital curriculum can be implemented successfully (Moscato et al., 2023).

METHODOLOGY

This research uses the library research method (library research). Library research according to (Mustofa, et al. 2023) defines as research that uses literature (literature) where all data is obtained from documents in the form of books, research journals, research reports, and other literature related to this research. The problem of this research is to find out "digital curriculum facing technological challenges in education." The concepts and theories used were assessed based on the available literature, especially from published articles and journals. Before conducting a literature review, the researcher must know the source of the information obtained. Judging from its nature, this research is included in descriptive research, after all the data and sources are collected, the author then analyzes the data so as to obtain a conclusion.

RESULTS AND DISCUSSION

1. Introduction to the Digital Curriculum

➤ Definition and Basic Concepts of Digital Curriculum

Digital curriculum is an approach to designing and managing educational curriculum using digital technology. The basic concepts of digital curriculum include

- Digitization of materials: converting learning materials from physical formats to digital formats, such as e-books, learning videos, and educational software.
- Interactive: encouraging active interaction between students and learning materials through various technologies, such as educational games, online discussions and interactive quizzes.

- Flexible access: allows students to access materials anytime and anywhere through devices such as computers, tablets, or mobile phones.
- Personalization: allows customization of curriculum and teaching methods based on students' individual needs with the help of algorithms and data.
- Evaluation and tracking: facilitates real-time data collection on student progress, allowing teachers to provide more targeted feedback.
- Collaboration: encourages collaboration between students and teachers, or even between students, through a platform of various information and joint projects.
- Technology integration: aligning technology with existing curriculum objectives and content.

➤ Differences between Traditional Curriculum and Digital Curriculum

1. Learning Format:

Traditional Curriculum: Learning mainly takes place in the classroom with the teacher as the main source of information.

Digital Curriculum: Learning uses technology, such as computers, mobile devices, and the internet, to access learning materials.

2. Source of Materials:

- Traditional Curriculum: Learning resources are usually printed books, whiteboards and teachers.
- Digital Curriculum: Resources include digital content, learning videos, interactive software and online resources.

3. Accessibility:

- Traditional Curriculum: Depends on physical access to a school or educational institution.
- Digital Curriculum: Accessible from anywhere with an internet connection, enabling distance learning.

4. Flexibility:

- Traditional Curriculum: Limited to a specific schedule and physical location.
- Digital Curriculum: More flexible, allowing students to learn anytime and anywhere.

5. Interactivity:

- Traditional Curriculum: Direct interaction between teachers and students.
- Digital Curriculum: Sometimes lacks direct interaction, but can offer interactivity through online platforms.

6. Assessment:

- Traditional Curriculum: Assessment often involves written exams and class projects.
- Digital Curriculum: Assessment can be done on the fly, with online exams and online assignments.

Both have their own advantages and disadvantages and their implementation depends on the needs and existing educational connections.

2. Technology Challenges in Education:

- Limited access to technology among student
- Inequality in technology access and its impact
- Security and privacy in the use of educational technology
- Required hardware and software
- Teacher training in integrating technology in teaching

3. Solutions and Strategies for Dealing with Challenges:

- Efforts to increase access to technology in schools
- Assistance or subsidy programs for students in need
- Education data security guidelines and policies
- Infestation in school technology infrastructure
- Training and professional development for teachers

4. Evaluation and Measurement in the Digital Curriculum

- Development of evaluation methods appropriate to the digital curriculum
- Utilization of online evaluation tools and applications
- The role of performance measurement in assessing the effectiveness of the digital curriculum

5. Recent Technological Developments:

- Challenges arising from new technological developments
- How to integrate technological innovations in the curriculum

6. Case Studies and Success Examples:

- Describe successful implementations of digital curricula in different schools or regions
- Highlighting best practices that can be adopted by other educational institutions

This material can be used as a basis for discussing the challenges and solutions in dealing with digital curriculum implementation in educational contexts.

CONCLUSIONS AND RECOMMENDATIONS

Digital curriculum is an approach to preparing an educational curriculum that utilizes digital technology to deliver subject matter, facilitate learning, and measure student achievement. This involves the use of software, hardware, online platforms, and digital resources to improve the learning experience. Digital curriculum is an approach in designing and managing educational curricula using digital technology. Traditional Curriculum: Learning mainly takes place in the classroom with the teacher as the main source of information. Digital Curriculum: Learning uses technology, such as computers, mobile devices, and the internet, to access learning materials.

FURTHER STUDY

This research still has limitations, so it is necessary to carry out further research related to the topic of Digital Curriculum Facing Technological Challenges in Education in order to improve this research and add insight to readers.

ACKNOWLEDGMENT

Researchers would like to thank Lecturer Mrs. Marsella D. GUI. Who has provided direction and guidance towards improving this manuscript. Researchers also would like to thank: Innovative Education Journal.

Research Contribution Statement

This research was conducted by Dina Rahmadani S. Manopo, Nur Amelia Arsyad, Imelda, Sri Ade Putri Mahadjani, Sabrian Suwele, Syukria Sukma Pakaya, Fikran Diange, Rizkianto Giasi, Nur Walida S. Tuna, the nine researchers had a real contribution in processing the data and then completing the process of revising and perfecting the article manuscript.

REFERENCES

- Atma, A. (2019). Pengembangan Kurikulum Berbasis Pendidikan Karakter. *Pendidikan Dasar*, 1(1), 31-43.
- Diah Rusmala Dewi. (2019). Pengembangan Kurikulum Di Indonesia Dalam Menghadapi Tuntutan Abad Ke21. *As-Salam: Jurnal Studi Hukum Islam & Pendidikan*,
- Firdausyah. (2021). Survei: 87% Anak Indonesia Main Medsos Sebelum 13 Tahun. Ginting, R. V. B., Arindani, D., Lubis, C. M. W., & Shella, A. P. (2021). Literasi Digital Sebagai Wujud Pemberdayaan Masyarakat Di Era Globalisasi. *Jurnal Pasopati*,
- Hamami, T. (2020). Strategi Pengembangan Kurikulum Menghadapi Tuntutan Kompetensi Abad 21. *Iq (Ilmu Al-Qur'an): Jurnal Pendidikan Islam*, 3(01),
- Husnah. (2016). Latar Belakang Anak Didik Sebagai Aset Generasi Peneruas Bangsa. *Skripsi*. (Makassar: Univeritas Negeri Makassar) .
- Iivari, N., Sharma, S., & Ventä-Olkkonen, L. (2020). Digital Transformation Of Everyday Life - How Covid19 Pandemic Transformed The Basic Education Of The Young Generation And Why Information Management Research Should Care? *International Journal Of Information Management*, 55(June),
- Jessica, A. R. A., Harmianto, S., & Mareza, L. (2020). Penerapan Literasi Digital dalam Pembelajaran Kurikulum 2013 Berbasis E-Learning Tema 8 Bumiku Kelas VI SD Negeri 2 Purbalingga Lor. *Jurnal Papeda: Jurnal Publikasi Pendidikan Dasar*, 2(2), 139-146
- Listiana, Y. R. (2021). Dampak Globalisasi Terhadap Karakter Peserta Didik Dan Kualitas Pendidikan Di Indonesia. *Jurnal Pendidikan Tambusai*, 5(1),

- Moscato, J., & Embre, C. (2023). Strategi Pendidikan Dasar untuk Menghadapi Tantangan Era Kurikulum Digital dengan Studi Empiris. *Jurnal MENTARI: Manajemen, Pendidikan Dan Teknologi Informasi*, 2(1), 43-53.
- Mustofa, M., Bara, AB, Khusaini, F., Ashari, A., Hertati, L., Mailangkay, AB, ... & Safii, M. (2023). *Metode Penelitian Kepustakaan (Penelitian Perpustakaan)*. Dapatkan Pers Indonesia.
- Rahmat, P. S. (2016). Peran Pendidikan Dalam Membentuk Generasi Berkarakter Pancasila. *Jurnal Penelitian Pendidikan*, 03(02), 2. Sari, E. N., Hermayanti, A., Rachman,