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Digital Transformation in Quran Village Education: A "Smart Tahfidz" App for Sustainability Learning

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Abstract.

Kampoeng Qur'an is one of the religious education tourism sites in Malang City that offers many types of Qur'an learning. Qur'an learning is conducted in 3 large mosques, 15 Qur'an Houses, and 13 TPQs, totaling 70 classes. There is one "Tahfidz Class" (Quran memorization class) held on weekends. Because many of the students are from out of town, it would be easier to utilize information technology to facilitate access to materials and reporting of learning outcomes. Therefore, a "Smart Tahfidz" application was created to make it easier for students to access materials and view learning outcome reports. The development of a "Smart Tahfidz" Digital Application Model uses the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) Method in Android Studio. The digital transformation enabled by the "Smart Tahfidz" app has positively impacted the education system in Quran Villages. The application enhances the efficiency of the Quran memorization process while strengthening evaluation, monitoring, and reporting mechanisms that were previously managed manually. The existence of "Smart Tahfidz" is also expected to encourage the sustainability of education in Kampoeng Qur'an.

Keywords: *Learning System, Quran Village, Religious Education Tourism*, *"Smart Tahfidz".*

1 Introduction

The halal tourism or Muslim religious tourism sector holds significant development potential. According to the Mastercard Crescentrating Global Muslim Travel Index (GMTI) 2019, the number of Muslim tourists worldwide is projected to reach 230 million by 2026 (Kemenkraf, 2021). Malang City is among the cities seeking to capture this market. One of the notable destinations in the area is the Ki Ageng Gribig Tomb Complex, which integrates religious, educational, historical, and ecological tourism, attracting approximately 800 visitors monthly (Ketik.co.id | Media Kolaborasi Indonesia. 2023). Additionally, the annual Haul Ponpes Darul Hadits event gathers hundreds of thousands of pilgrims from various regions across Indonesia (IndonesiaTimes, 2024). In this context, developing Kampoeng Qur'an Wijaya Kusuma (KQWK) as a religious and educational tourism destination in Malang City is highly relevant. KQWK, inaugurated by the Mayor of Malang in 2022 in Polehan Village, Blimbing District, an area with a population of 3,000, offers structured Qur'an learning programs and tahfidz training. The programs are conducted in three central mosques, 15 Qur'an Houses, and 13 TPQs, totaling 70 classes. KQWK adopts an inclusive learning approach, welcoming students, parents, beginners, and Qur'an memorizers with flexible schedules and free tuition funded through community contributions. There is one "Tahfidz Class" (Quran memorization class) held on weekends. Because many of the students are from out of town, it would be easier to utilize information technology to facilitate access to materials and reporting of learning outcomes. Therefore, a "Smart Tahfidz" application was created to make it easier

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for students to access materials and view learning outcome reports. The development of a "Smart Tahfidz" Digital Application Model uses the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) Method in Android Studio. When technology is seen as useful and easy to use, teachers and students are more likely to adopt it in the learning process (Davis, 1989). Digital Transformation in Quran Village Education is expected to increase student satisfaction and attract many students to study in the Quran Village.

Digital Transformation (DT) refers to the process of using digital technologies to create substantial changes in how organizations operate, deliver value to customers, and adapt to evolving markets. It is not only about adopting technology but also involves big changes in culture, organizational structure, and business models. Digital transformation is a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies. Digital transformation fundamentally changes how we operate and deliver value and integrates digital technology into all areas of life and work, including in education (Vial 2019). Digital transformation typically focuses on four pillars: customer experience, operational processes, business models, and organizational culture. It's in line with the conditions in the 21st Century Learning Skills Framework, the essentials for modern education systems emphasize digital literacy, collaboration, critical thinking, and technology integration.

Key Dimensions in Digital Transformation Theory: 1) Digital Capabilities: using digital tools and technologies; 2) Leadership Capabilities: leading the transformation with vision; 3) Transformation Management Capabilities: managing the change process effectively. (Westerman, Bonnet, and McAfee 2014). Digital transformation requires a fundamental rethinking of customer experience, business models, and operations. A common framework in DT theory includes three maturity stages: 1) Digitization: Converting analog data into digital form; 2) Digitalization: Enhancing business processes using digital technologies; 3) Digital Transformation: Comprehensive changes across the business model, customer engagement, and organizational structure (Kane et al. 2015). Digital technologies are increasingly central to the organization and delivery of education, from classrooms to administrative systems (Selwyn 2012). It's relevant to other opinions that digital transformation in education requires systemic change that integrates technologies into pedagogy, administration, and policy (Bond, Zawacki-Richter, and Nichols 2019). According to UNESCO, digital transformation in learning goes beyond tools and infrastructure; it requires inclusive strategies, teacher training, and content reform. (UNESCO 2021)

Based on Constructivist Learning Theory, learning becomes more effective when learners actively construct their own knowledge with support from technology, allowing for collaboration and interactive learning (Vygotsky, 1978). Whereas the Technology Acceptance Model (TAM) explains that technology adoption in learning is influenced by perceived usefulness and perceived ease of use. When technology is seen as useful and easy to use, teachers and students are more likely to adopt it in the learning process (Davis, 1989). Another theory, the Community of Inquiry (CoI), proposes that online or technology-supported learning requires social presence, cognitive presence, and teaching presence, all of which can be strengthened through the effective use of information technology (Garrison, Anderson, and Archer 1999). These theories align with a study examining factors influencing the success of e-learning in higher education, which found that information technology facilitates access, interaction, and flexibility in learning, thereby enhancing the effectiveness of the learning process (Al-Fraihat et al., 2020). The systematic review demonstrated that integrating

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technology in learning enhances 21st-century skills, increases access to learning materials, and supports collaboration in learning (Tondeur et al., 2016).

Based on the TAM, Constructivism, and CoI frameworks, along with the studies above, information technology plays a critical role in facilitating the learning process by improving access to learning materials, offering flexible learning opportunities, enabling interaction and collaboration, and enhancing learner engagement in both online and blended learning environments. Key concepts and benefits of developmental learning systems include: 1) Personalized Learning: Digital tools enable adaptive learning systems that tailor content based on individual learner needs, pace, and style; 2) Blended and Online Learning Models: Integration of online platforms (LMS, mobile apps, virtual classrooms) allows for hybrid education models that mix face-to-face and digital formats; 3) Real-Time Assessment and Feedback: Technology facilitates data-driven assessment methods and immediate feedback, improving both teaching and learning efficiency; 4) Collaborative and Interactive Learning: Platforms like MOOCs, cloud tools, and smart apps promote collaboration among learners and instructors across geographical boundaries; 4) Data-Driven Decision Making: Digital learning platforms generate analytics on learner performance that can be used to inform curriculum design and intervention strategies.

The beginning of the ADDIE model was derived from the learning design model and theory used by the US Army in 1950. Then, in 1975, Florida State University developed it in the field of Educational Technology so that all US Armed Forces could use it and produce high-quality soldiers. In the mid-1980s, educational practitioners made adjustments to this model so it could be applied in education and become more practical and dynamic. Thus, ADDIE is applied in education and other contexts, such as the search for new employees for a company, the development of learning strategies and methods, or the creation of teaching materials. Educational practitioners developed the ADDIE model in developing tools and infrastructure for training or learning programs that are effective, dynamic, and support the learning process (Hidayat and Nizar 2021). ADDIE was developed by two influential experts, namely Reiser and Molenda. Although, actually, both have different formulations for visualizing ADDIE. According to Reiser, the ADDIE formulation uses verbs (Analyze, Design, Develop, Implement, Evaluate). Reiser's description revises the steps or phases in the ADDIE model. Molenda's description of the ADDIE components uses more nouns (analysis, design, development, implementation, evaluation) regarding the ADDIE components (Branch 2010)

2 Method

2.1 The Stages of the ADDIE Method

Development of a “Smart Tahfidz” Digital Application Model uses the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) Method (Aldoobie 2015)(Zamri Sahaat; Nurfaradilla Mohamad Nasri; Abu Yazid Abu Bakar1 2019) based on Android Studio (Parma Dewi, I; Mursyida, L; Samala 2021) with the stages:

a. Design Model: System Design: 1) Create a conceptual design for the “Smart Tahfidz” system, including system architecture, database structure, and application information workflow; 2) User Interface Design (UI/UX): Design an attractive and engaging user interface, considering the needs and preferences of target users; 3) Platform Selection:

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Determine the platform and technology to be used for the development model, such as a web application, a mobile application, or both;

b. Development Model: 1) Key Feature Creation: Implement the planned key features, such as class management, interactive learning modules, and evaluation and feedback mechanisms; 2) Content Integration: Provide Quranic content and related learning materials in various multimedia formats, such as text, audio, and video; 3) Initial Testing: Initial testing of the model to identify bugs or functionality issues that need to be fixed.
c. Evaluation Model: 1) Feedback Collection: feedback from potential users, both instructors and students, regarding user experience, additional needs, and problems encountered; 2) Reanalysis: evaluation to determine changes or improvements needed to the model

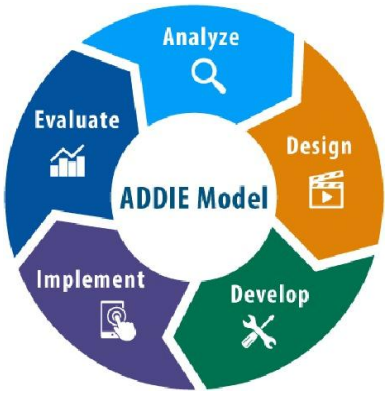

Figure 1. Metode ADDIE (Analysis, Design, Development, Implementation, and Evaluation)

2.2 System Design

The stages of system design "Smart Tahfidz" include:

a. Basic System Design Framework

In designing an application system, a system design methodology framework is first created. The purpose of developing a basic system framework is to facilitate understanding when developing an information system concept.

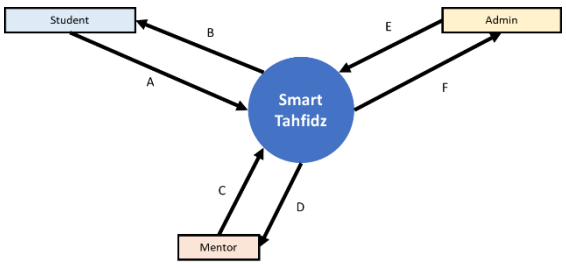

Figure 2. "Smart Tahfidz" Model

Description: A) Registration or login, class registration, readings/deposits, evaluation/tests; B) Username and Password, learning information, class assignment, schedule information, materials, and reports of test result; C) Username and password,

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registration/login, upload materials, receive readings/deposits, evaluation, and scoring; D) Class management, participant data, schedule information, class information, and reports of learning outcome; E) manage participants, manage mentors, and manage schedules; F) Participant reports, mentor reports, schedule reports, learning outcome reports

b. System Design Flow Diagram

"Smart Tahfidz" was developed through several important stages. The first stage is needs identification. Field studies and literature reviews are crucial steps in data collection before the system is designed, including the collection of tahfidz data and other necessary information. After determining the technology, platform, and program, the next step is to design the model. The created model must undergo evaluation and testing to ensure its performance meets requirements and standards. If the testing is not valid, further improvements are required. After passing testing, the system design process continues, requiring further testing and evaluation until the system is refined and ready for implementation.

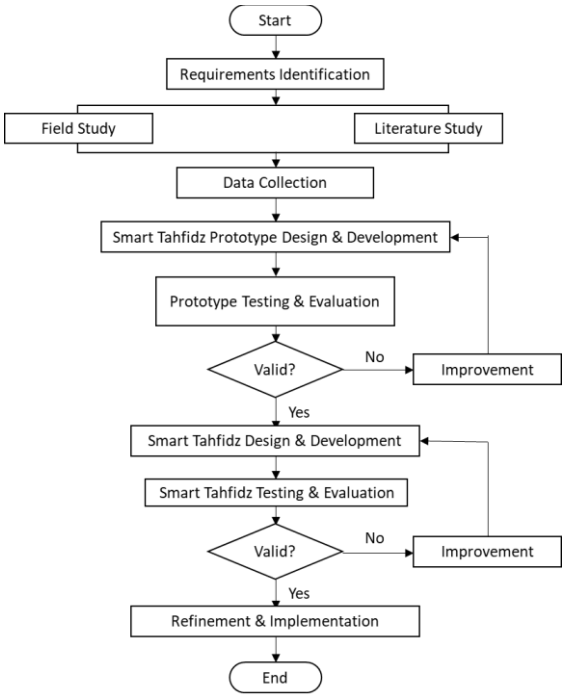

Figure 3. System Design Flow Diagram

Stages of system flow "Smart Tahfidz": 1) Start: The process begins with the initiation of the Smart Tahfidz application development project; 2) Requirements Identification: This initial phase aims to understand user and system requirements. It involves two main approaches: a) Field Study: Direct observation or interviews with potential users to identify real-world needs, b) Literature Study: Reviewing existing theories, academic references, and similar applications to enrich understanding of the system's requirements; 3) Data Collection: All information from the field and literature studies is collected to form the foundation for the design and development of the application; 4) "Smart Tahfidz" Prototype

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Design & Development: In this phase, a prototype of the "Smart Tahfidz" application is designed and developed based on the identified requirements; 5) Prototype Testing & Evaluation: The prototype is tested and evaluated to determine whether it meets user needs and functional expectations, 6) Valid: If not valid, the prototype undergoes improvement based on feedback and test results. If valid, the process proceeds to the full development phase; 7) "Smart Tahfidz" Design & Development: The final version of the application is developed, integrating the feedback and improvements from the prototype stage; 8) "Smart Tahfidz" Testing & Evaluation: The final version is tested again to ensure it is functional, user-friendly, and effective in supporting "Tahfidz" learning; 9) Valid: If not valid, further improvements are made. If valid, the process continues to final refinement; 10) Refinement & Implementation: Final refinements are made to the application, followed by actual implementation in the intended learning environment; 11) End: The development process concludes once the application is successfully implemented and operational.

c. Use Case Diagram

Use Case Diagrams play a key role in ensuring that the "Smart Tahfidz" system is designed effectively and efficiently to meet user needs. These diagrams help identify and visualize the interactions between users (Tahfidz participants, mentors, administrators) and the system, thereby understanding their primary needs and determining the features necessary to meet them. The diagram above demonstrates that the system's functionality is clearly designed, effective, and has concise, compact, and measurable features.

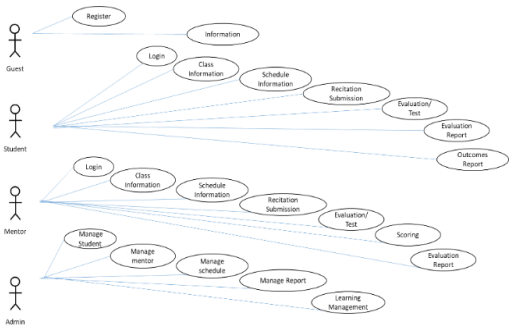

Figure 4. Use Case Diagram

d. System Entity and Feature *"Smart Tahfidz."*

Table 1. Feature "Smart Tahfidz"

System Entity	Access Feature
Student	• Learning Scheme Information • Registration • Class Information • Reading Schedule Information / Submissions • Submissions • Reading Progress • Assessments

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System Entity	Access Feature
	• Certificates of Completion per Level • Learning Outcome Reports
Mentor	• Class information • Reading/submission schedule information • Uploading materials • Mentoring Reading Submissions • Monitoring participant progress • Providing evaluations/tests • Providing assessments • Recommending Certificates of Completion per Level • Receiving reports on learning mentoring results • Receiving reports on participant progress in the region
Admin	• Manage participants • Manage mentors • Manage classes • Manage schedules • Manage reports

System Entity in "Smart Tahfidz", based on Table 1 includes:

1) Student (User: Learner/Participant)
   The student is the primary user of the system who participates in the learning program. Their access features include: a) Learning Scheme Information: Students can view the structure, levels, and goals of the learning program, b) Registration: They can register themselves for the platform or specific classes, c) Class Information: Access to details about the classes they are enrolled in, including topics and instructors, d) Reading Schedule Information or Submissions: View the scheduled timeline for readings and submission deadlines, e) Submissions: Ability to upload or submit their assignments or readings for review, f) Reading Progress: Track their own progress through reading materials or curriculum, g) Assessments: Participate in quizzes, evaluations, or other testing formats, h) Certificates of Completion per Level: Download or view certificates after successfully completing a level or module, i) Learning Outcome Reports: Access to summaries or detailed reports about their own performance and achievements.
2) Mentor (User: Instructor/Guide)
   The mentor facilitates and supports students' learning. Their system access allows them to: a) Class Information: Access and oversee the classes under their responsibility, b) Reading or Submission Schedule Information: Monitor and adjust the reading timelines and submission deadlines, c) Uploading Materials: Upload course content, reading materials, assignments, or other instructional resources, d) Mentoring Reading Submissions: Review and provide feedback on students' submitted work, e) Monitoring Participant Progress: Track the development and participation of students across different metrics, f) Providing Evaluations/Tests: Create and assign evaluations to measure student comprehension, g) Providing Assessments: Assess students based on their performance and engagement, h) Recommending Certificates of Completion per Level: Recommend issuance of certificates for students who meet the requirements, i)

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Receiving Reports on Learning Mentoring Results: View summaries or detailed results of the mentoring process, j) Receiving Reports on Participant Progress in the Region: Monitor the progress of students in a specific area or assigned group.

3) Admin (User: System Administrator)
The admin manages and oversees the entire learning management system. Their access includes: a) Manage Participants: Add, update, or remove students from the system, b) Manage Mentors: Add, assign, or manage mentor accounts and roles, c) Manage Classes: Create, schedule, and organize classes and class groups, d) Manage Schedules: Set or modify the overall learning and submission schedules, e) Manage Reports: Access and control reporting functions, including student performance, mentor activity, and class statistics.

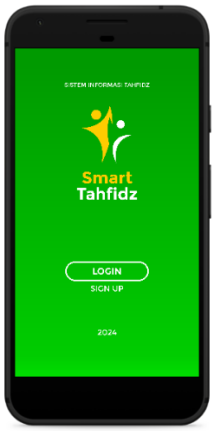

Figure 5. Front View of "Smart Tahfidz" Application

3 Result and Discussion

Digital transformation in education has paved the way for a variety of technological innovations, including in religious education settings such as Quran Villages. The "Smart Tahfidz" application is a tool to support a more efficient and structured Quran memorization (tahfidz) learning process. The app offers not only features for memorization practice but also integrates reporting systems, student progress monitoring, and communication between students, teachers, and parents. Key features such as memorization reminders, periodic evaluations, audio recording of recitations, and individual progress dashboards help make the learning process more personalized, adaptive, and measurable. In the context of Quran Village implementation, the app addresses traditional challenges in tahfidz learning systems—such as limited face-to-face time, lack of progress documentation, and information gaps between teachers and parents. The "Smart Tahfidz" app reinforces a blended learning approach by combining traditional methods with digital tools, while maintaining the spiritual and interpersonal values essential to Quranic education. Moreover, the data generated by the app can serve as a valuable resource for data-driven decision-making, enabling improvements in curriculum design, identification of memorization difficulties, and formulation of strategies to

enhance learning quality. Mobile learning allows students to access learning materials anytime, anywhere using mobile devices (Kukulska-Hulme, A., & Traxler, 2005). It's ideal for rural or community-based education, like in a Quran Village. In practice, ADDIE helps users in Quran Village Education to be more efficient. It aligns with other research that ADDIE makes Islamic Religious Education (PAI) subjects very flexible, allowing various strategies and methods to be implemented in their learning. This ADDIE design can guide and illustrate the PAI learning process well because this ADDIE model is a design that focuses on the system (Hidayat & Nizar, 2021)

In concluding other research discussions of instructional design models, it is concluded that effective education requires a careful and structured approach. Instructional design models provide valuable guidance for educators and instructional designers in designing optimal learning experiences. Each model has its own unique characteristics and applicability, tailored to specific learning needs and contexts. The ADDIE model offers a systematic approach that can be tailored to specific needs. By encompassing analysis, design, development, implementation, and evaluation, this model provides a solid foundation for designing measurable, effective learning. Gagne's Nine Events of Instruction emphasizes a series of steps aimed at maximizing learning outcomes. From providing attention to evaluative feedback, this model details the learning process that can enhance student understanding and skill (Ina Magdalena, Adinda Raihannun Namirah, Aliyah Nurul Khaerani 2024). It's also linked with other research. Throughout the ADDIE process, formative and summative evaluations were conducted, and determinants of implementation were identified using the Consolidated Framework for Implementation Research (CFIR). Formative evaluation consisted of qualitative feedback received from recipients and providers during the initial pilot. The summative evaluation included quantitative and qualitative data at levels 1 and 2 (reactions to training, self-reported knowledge, and changes in practice) and was guided by Kirkpatrick's model of training evaluation. Formative evaluation with key stakeholders identified a range of learning needs that informed the development of a pilot training program in individual placement and support (IPS). Feedback on this pilot training program informed the design document of three e-learning modules. Each module was developed iteratively and provided an assessment of learning needs that informed successive modules (Patel et al. 2018).

Other study was conducted across multiple higher education institutions in Oman with participants included faculty members who were either using or had access to the Moodle LMS platform fund that: 1) Ease of Use and Usefulness were strong predictors of LMS adoption, consistent with TAM; 2) Institutional support, including training, technical infrastructure, and leadership commitment, played a crucial role in successful implementation; 3) Resistance was noted among some faculty due to lack of confidence in technology or fear of change; 4) Adoption was more successful when the LMS aligned with the curriculum and teaching goals. This study uses the Technology Acceptance Model (TAM) and the Diffusion of Innovations Theory (DOI) as a framework (Al-Busaidi & Al-Shihi, 2012). It's relevant to other research in Baltic countries that examines the factors influencing students' acceptance and continued use of Learning Management Systems (LMS) in a developing country context (Latvia). Used the Technology Acceptance Model (TAM) and the DeLone and McLean IS Success Model as analytical frameworks. The key findings of this research: 1) Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) were strong predictors of initial acceptance of the LMS; 2) User satisfaction and system quality significantly influenced students' intention to continue using the system; 3) Training, support services, and technical reliability were critical enablers of

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successful use; 4) Even when the technology was available, the success of implementation depended on users' perceptions and attitudes toward the system (Ifinedo, 2006).

4 Conclusion

The digital transformation enabled by the "Smart Tahfidz" app has positively impacted the education system in Quran Villages. The application enhances the efficiency of the Quran memorization process while strengthening evaluation, monitoring, and reporting mechanisms that were previously managed manually. The successful integration of this app demonstrates that incorporating digital solutions into religious education is not only feasible but also beneficial, without compromising its spiritual foundations. With adequate training, infrastructure, and stakeholder commitment, "Smart Tahfidz" can serve as a model for the development of digital learning systems in other Islamic educational institutions. The adoption of such digital tools not only improves the quality of "tahfidz" education but also represents a strategic step toward addressing the challenges of the Fourth Industrial Revolution in the realm of Islamic learning. The existence of "Smart Tahfidz" is also expected to encourage the sustainability of education in Kampoeng Qur'an.

References

Al-Busaidi, K. Ali, & Hafedh Al-Shihi. (2012). "Key Factors to Instructors' Satisfaction of Learning Management Systems in Blended Learning." *Journal of Computing in Higher Education* 24(1):18–39.

Al-Fraihat, Dimah, Mike Joy, Ra'ed Masa'deh, and Jane Sinclair. 2020. "Evaluating E-Learning Systems Success: An Empirical Study." *Computers in Human Behavior* 102:67 86. doi: https://doi.org/10.1016/j.chb.2019.08.004.

Aldoobie, N. (2015). "Addie Model." *American International Journal of Contemporary Research* 5(6).

Bond, M., Olaf Zawacki-Richter, & Mark Nichols. (2019). "Revisiting Five Decades of Educational Technology Research: A Content and Authorship Analysis of the British Journal of Educational Technology." *British Journal of Educational Technology* 50(1):12–63. doi: 10.1111/bjet.12730.

Branch, Robert Maribe. 2010. *Instructional Design: The ADDIE Approach*.

Davis, F. (1989). "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology." *MIS Quarterly* 13:319. doi: 10.2307/249008.

Garrison, D. Rand, Terry Anderson, & Walter Archer. (1999). "Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education." *The Internet and Higher Education* 2(2):87–105. doi: https://doi.org/10.1016/S1096-7516(00)00016-6.

Hidayat, F., & Muhamad Nizar. (2021). "Model Addie (Analysis, Design, Development, Implementation and Evaluation) Dalam Pembelajaran Pendidikan Agama Islam." *Jurnal Inovasi Pendidikan Agama Islam (JIPAI)* 1(1):28–38. doi: 10.15575/jipai.v1i1.11042.

Ifinedo, Princely. (2006). "Acceptance and Continuance Intention of Web-Based Learning Technologies (WLT) Use among University Students in a Baltic Country." *Electronic Journal of Information Systems in Developing Countries* 23(1):1–20. doi: 10.1002/j.1681-

4835.2006.tb00151.x.

Ina Magdalena, Adinda Raihannun Namirah, Aliyah Nurul Khaerani, &. Anifa Sabrina. 2024. "MODEL-MODEL DESAIN PEMBELAJARAN." *Sindoro CENDIKIA PENDIDIKAN* 3(4):101–12. doi: https://doi.org/10.9644/sindoro.v3i4.2159.

IndonesiaTimes. 2024. *Puncak Haul Di Ponpes Darull Hadits Digelar Besok, Hindari Ruas Jalan Ini Agar Terhindar Macet*.

Kane, Gerald C., Doug Palmer, Anh Philips Nguyen, David Kiron, & Natasha Buckley. (2015). "Strategy, Not Technology, Drives Digital Transformation." *MIT Sloan Management Review & Deloitte* (57181):27.

Kemenkraf. (2021). *Potensi Pengembangan Wisata Halal Di Indonesia*.

Ketik.co.id | Media Kolaborasi Indonesia. 2023. *Kampung Gribig Religi Jadi Wisata Potensial Kota Malang*.

Kukulska-Hulme, A., & Traxler, J. (2005). *Mobile Learning: A Handbook for Educators and Trainers*. Routledge.

Parma Dewi, I; Mursyida, L; Samala, AD. 2021. *Dasar-Dasar Android Studio Dan Membuat Aplikasi Mobile Sederhana*. Bandung: Penerbit Widina Bhakti Persada.

Patel, Sapana R., Paul J. Margolies, Nancy H. Covell, Cristine Lipscomb, and Lisa B. Dixon. (2018). "Using Instructional Design, Analyze, Design, Develop, Implement, and Evaluate, to Develop e-Learning Modules to Disseminate Supported Employment for Community Behavioral Health Treatment Programs in New York State." *Frontiers in Public Health* 6(May). doi: 10.3389/fpubh.2018.00113.

Selwyn, N. 2012. *Education in a Digital World: Global Perspectives on Technology and Education*. Taylor & Francis.

Tondeur, Jo, Johan van Braak, Peggy Ertmer, and Anne Ottenbreit-Leftwich. (2016). "Understanding the Relationship between Teachers' Pedagogical Beliefs and Technology Use in Education: A Systematic Review of Qualitative Evidence." *Educational Technology Research and Development* 65. doi: 10.1007/s11423-016-9481-2.

UNESCO. (2021). "Reimagining Our Futures Together: A New Social Contract for Education."

Vial, Gregory. (2019). "Understanding Digital Transformation: A Review and a Research Agenda." *The Journal of Strategic Information Systems* 28(2):118–44. doi: https://doi.org/10.1016/j.jsis.2019.01.003.

Vygotsky, L. S. 1978. *Mind in Society: Development of Higher Psychological Processes*. Harvard University Press.

Westerman, G., D. Bonnet, and A. McAfee. (2014). *Leading Digital: Turning Technology Into Business Transformation*. Harvard Business Review Press.

Zamri Sahaat; Nurfaradilla Mohamad Nasri; Abu Yazid Abu Bakar1. 2019. "ADDIE Model In Teaching Module Design Process Using Modular Method: Applied Topics in Design And Technology Subjects." in *Advances in Social Science, Education and Humanities Research*.