

THE ROLE OF LEARNING TECHNOLOGY IN COMPETENCY-BASED CURRICULUM DEVELOPMENT IN ISLAMIC EDUCATION

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Abstract

The development of technology and information in the 21st century has brought significant changes across many fields, including education, including Islamic education. Its development has a major influence on life because technology is an important factor in the application and development of competency-based curricula, making them more relevant to students' needs in the digital era. This article discusses the role of technology in supporting the development of a competency-based curriculum in Islamic education by building on a foundation for how technology can be used to enhance students' knowledge and skills, as well as Islamic values. The research found that learning technology enables better assessment than before, more interaction and collaboration, creates an active learning atmosphere, and creates greater access to various resources used for learning. Through this research, it is hoped that it can provide educators with guidance on designing and implementing a curriculum that is aligned with technological advances. The results are expected to help improve the quality of Islamic education to be more flexible and innovative.

Keywords: Technology; Islamic Education; Competency-Based Curriculum.

Abstrak

Perkembangan teknologi dan informasi di abad ke-21 telah membawa perubahan signifikan di berbagai bidang, termasuk pendidikan, termasuk pendidikan Islam. Perkembangannya memiliki pengaruh besar terhadap kehidupan karena teknologi merupakan faktor penting dalam penerapan dan pengembangan kurikulum berbasis kompetensi, sehingga lebih relevan dengan kebutuhan siswa di era digital. Artikel ini membahas peran teknologi dalam mendukung pengembangan kurikulum berbasis kompetensi dalam pendidikan Islam dengan membangun landasan tentang bagaimana teknologi dapat digunakan untuk meningkatkan pengetahuan dan keterampilan siswa, serta nilai-nilai Islam. Penelitian menemukan bahwa teknologi pembelajaran memungkinkan penilaian yang lebih baik daripada sebelumnya, interaksi dan kolaborasi yang lebih banyak, menciptakan suasana belajar yang aktif, serta akses yang lebih luas ke berbagai sumber daya yang digunakan untuk belajar. Melalui penelitian ini, diharapkan dapat memberikan panduan bagi pendidik dalam merancang dan menerapkan kurikulum yang selaras dengan kemajuan teknologi. Hasilnya diharapkan dapat membantu meningkatkan kualitas pendidikan Islam agar lebih fleksibel dan inovatif.

Kata kunci: Teknologi, Pendidikan Islam; Kurikulum Berbasis Kompetensi.

Introduction

Rapidly evolving technology has brought significant changes to various aspects of human life, including education. Advances in digital technology have brought significant changes to the world of education, which was previously done manually. With the advent of

technology, all tasks can be completed quickly (Benson & Njuguna, 2023). Digital learning is a crucial innovation that cannot be removed from all aspects of the teaching and learning process, which utilizes technology. As we know, technology in education functions as a facilitator of the learning process (Suraijiah et al., 2023).

Educators in Islamic education play a crucial role in determining educational outcomes. Educators must acquire and demonstrate skills in using digital technology as it continues to evolve. These technological advances are utilized effectively. Student academic achievement is greatly influenced by educators who possess a variety of strong professional competencies.

In the Muslim world, different regions have varying levels of technology accessibility, which is a barrier to its use in Islamic educational institutions. Other factors that can influence technology adoption in Islamic educational institutions include infrastructure and economic issues. Furthermore, the role of technology in transforming religious teaching and learning must be carefully considered to uphold Islamic values. The use of e-learning applications and platforms makes learning easier and more flexible. However, it is important to remember that the content presented must align with Islamic values, and the quality of the content must also be maintained. Furthermore, it is important to consider how technology influences students' religious identity so that its use does not diminish their love for Islam.

This study has several primary objectives, aiming to examine the impact and effectiveness of media technology in Islamic education within the curriculum. The first objective is to assess the effectiveness of media use in Islamic education, which involves evaluating how media technology can enhance teaching and learning, considering factors such as student engagement, motivation, and understanding. This study also contributes to existing knowledge on Islamic education and informs future research.

Research Methods

This research employs a qualitative method, with the discussion utilizing a literature review approach. A literature review is a method that involves systematically collecting data from various sources, including scientific articles, research journals, books, and relevant documents, to gain a theoretical understanding of how technology in learning can assist in the development of a competency-based curriculum in Islamic education.

Research Findings and Discussions

Technology is a tool, resource, and system used and designed to facilitate human work. Learning technology is a tool or media that combines several technologies used in education to facilitate the learning process (Pittas & Adeyemi, 2019). This learning technology consists of software, hardware, and digital platforms such as computers, multimedia tools, online learning applications, and mobile devices. Learning technology refers to tools, resources, and systems that facilitate teaching, increase accessibility to learning materials, and make the learning process more interactive and effective student-centered learning (Shehab, 2022). A similar understanding was put forward by Salsabila et al. (2020) in Firdaus et al. (2023), who argued that digital technology in education functions as a learning aid that complements all learning activities and tasks. Given the continuous advancement of technology, many platforms are currently available to support learning due to the limitless nature of technology.

According to Maret et al. (2023), in Islamic education, a competency-based curriculum combines several characteristics intended to align with educational outcomes or objectives. The following are the characteristics of a competency-based curriculum in Islamic education: 1). Emphasis on practical religious knowledge. A competency-based curriculum in Islamic education focuses not only on understanding and applying Islamic teachings in daily life but also encompasses knowledge and skills regarding the Quran, Hadith, Islamic jurisprudence, and morals. 2). Holistic development. The goal of this competency-based curriculum is to improve

students' cognitive, affective, and psychomotor aspects. This also includes how to build strong ethical values, practical skills, and mental discipline in line with Islamic teachings so that students can practice Islamic values and contribute positively to society. 3). Personalized learning objectives. Allowing flexibility to accommodate individual learning abilities and ensuring that each student meets certain competencies without being bound by time. Students are also encouraged to achieve goals according to their abilities (Marbun & Tohir, 2022). 4). Continuous assessment. Competency-based curricula in Islamic education utilize a variety of assessment methods to assess students' progress in religious knowledge and individual growth. These assessments focus on the goal of gaining a deep understanding of Islamic values. 5) Integration with general education. These curricula often integrate religious education with general competencies necessary for academic and professional success, encouraging the development of social, moral, and intellectual skills.

Given these characteristics, a competency-based curriculum in Islamic education is a dynamic framework that emphasizes the ethical, practical, and intellectual aspects essential for students to thrive in diverse social and Islamic contexts. It provides relevant platforms for learning. One example is Zoom Meetings. This platform provides an interactive space for online learning, enabling Islamic education teachers to present materials, supporting interactive learning and student engagement. Google Classroom is an affordable and accessible platform for Islamic studies. It allows educators to manage courses in an organized manner, allowing them to assign assignments, share content, and monitor student progress, helping educators better manage distance learning (Syomwene, 2023). WhatsApp groups are a popular communication tool for informal communication between teachers and students. Through this medium, educators can share lessons, assignments, and discussions, making learning more flexible and accessible outside of class time.

In the context of multimedia-based learning in Islamic education, multimedia tools such as video, audio, and animation are used to convey religious material engagingly. For example, these tools help students understand verses of the Quran, Hadith, and Islamic history, enhancing their understanding of religion through audio and visuals. Specialized software and programs: Islamic education also utilizes specialized digital tools such as flash Quran programs, zakat calculators, and e-book programs. Interactive resources for studying religion that add a practical approach (Liana Nurhaeti, 2023).

The competency-based approach to Islamic education aims to instill essential skills, attitudes, and values in students. By establishing clear learning outcomes, students are guided to master specific competencies relevant to their religious context. It encompasses understanding Islamic values and applying them in real life (Nurdiyanti et al., 2022). The use of artificial intelligence technology in learning can help students engage in independent learning at school by accessing tailored lessons, asking questions, and receiving feedback from teachers. This allows educators to focus on the students being mentored. As in other fields, competency-based Islamic education can integrate learning with practical applications, such as books, interactive lessons, and multimedia tools. A competency-based approach emphasizes active student-centered methods that can be enhanced through learning technology. Technologies such as virtual classrooms and digital simulations encourage critical thinking and problem-solving, which are essential competencies in Islamic education (Viet Phuc & Giam, 2024).

The role of technology in a core competency-based curriculum significantly supports learning by facilitating personalized assessment and instruction that focuses on student abilities. Personalized learning can create a crucial approach to a competency-based curriculum, as it focuses solely on skill acquisition rather than time-based development (Oroszi, 2020). This is because technology enables students to progress based on their individual mastery of competencies. The tools or media used provide crucial feedback in a competency-based

curriculum that prioritizes mastery because digital tools enable students to continuously learn and improve their skills (Mendonça et al., 2022).

To integrate digital literacy into the school environment, a comprehensive, in-depth literacy curriculum must be implemented, not only within the Islamic religious education curriculum but also across other curricula. This can be achieved through the use of digital technology in learning-based projects and through the development of critical analysis skills. Schools should also provide technical support training for internal teachers. For example, this includes using technology in learning, training on how to use online learning platforms, creating interactive learning modules, and managing virtual classrooms. Technical support must be readily available and necessary to assist teachers in the learning process. (Suhilmati et al., 2024)

Essentially, a curriculum is a set of plans and arrangements that explain the objectives, content, and instructional methods needed to guide learning activities. The curriculum is considered a crucial part of the educational process because it provides guidance for achieving educational goals. Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System defines the curriculum as a plan that serves as a guideline for organizing learning activities to achieve educational goals (Halim et al., 2023).

The term "curriculum" is not new to the world of education. The existence of a curriculum can influence the quality and quantity of all educational institutions. Essentially, educators should understand that the curriculum is a system that determines the direction and goals of education itself. Therefore, the curriculum is designed to achieve educational goals and serve as a reference for carrying out the task of educating students professionally. By understanding the curriculum, educators can select and determine learning objectives, methods, techniques, and media used in teaching, as well as appropriate and precise teaching evaluation tools. Therefore, educators and education personnel should understand the curriculum (Fadli, 2022).

In learning, education, and the educational curriculum must be the ability to respond quickly to developments in science and technology. Because education It is an effort to prepare students for a better future, as scientific developments significantly impact curriculum development. Curriculum development is directly influenced by advances in science and technology. This encompasses the creation of educational materials and content, the implementation of strategies, learning media, and the implementation of evaluation systems (Singh & Bhuju, 2001).

A competency-based curriculum is a structured approach to education that focuses specifically on student competencies. It encompasses student skills, knowledge, and attitudes. This curriculum is designed to balance learning objectives with the real-world skills students need to actively participate in society and the workplace. Its key components are competency-based, flexible schedules, and personalized learning paths. This method emphasizes lifelong learning, adaptability, and active participation in a rapidly changing, knowledge-based environment (Widjajani & Hidayati, 2014).

The role of technology in education has influenced learning and accessibility in the world of education. Technology allows easier access to various educational resources, allowing students to quickly obtain information and encouraging student engagement in various digital content (Hakim et al., 2024). Furthermore, technology helps design innovative curricula by incorporating various forms of media that enhance critical thinking, problem-solving skills, and digital literacy. Technology in education is crucial in preparing students to dive directly into today's highly modern workforce. This can help them become more creative and collaborative in the digital and global world (Baharuddin et al., 2024).

Technology plays a crucial role in the implementation of competency-based curricula by enabling practical skills development and supporting personalized learning pathways (Cao et al., 2023). In competency-based education, students are able to demonstrate proficiency in specific

knowledge or skills. The application of technology in curriculum development can help educators deliver material more effectively by providing learning media. This makes learning more engaging and helps students understand the material presented through visual and interactive methods, such as the use of laptops, projectors, and online learning media like PowerPoint (Buckley et al., 2019).

With technological advances, teachers are more motivated to use any available teaching tools to support student learning (Abidin, 2023). In general, technology is very beneficial for both teachers and students. The benefits of technological assistance in learning include increased student motivation, a more effective teaching process, improved student academic achievement, and easier access to information (Pittas & Adeyemi, 2019).

Other benefits of using technology in a competency-based curriculum for learning include: **1) It can improve learning outcomes.** The use of technology in learning enables results-oriented and competency-focused education. By clearly defining and assessing competencies, educators can align student training with real-world needs and help students acquire relevant skills for entering the workforce (Nurhana & Asikin, 2024). **2) Involvement of innovative tools.** Creating an interactive and engaging learning environment, aided by the use of sophisticated learning tools such as simulation software powered by artificial intelligence. This method can encourage creativity, independent learning, and critical thinking. **3) Development of practical skills.** Competency-based courses concentrate on general and specific skills, such as programming, data analysis, cybersecurity, and problem-solving. This approach is crucial for IT professionals because it can guide students in applying theoretical knowledge to real-world situations (Yen & Thao, 2024). **4) Support for lifelong learning.** The use of teaching aids can help students learn independently and build their research and information-seeking skills. In the ever-evolving technology industry, a lifelong learning mindset is crucial. **5) Personalized learning.** Technology allows learning to be tailored to each student's strengths and needs, allowing them to learn at their own pace and ability. This, in turn, helps them understand the subject matter well (Mpuangnan, 2024).

In education, technology plays a crucial role in helping students understand real-life problems. Effective technology in education must be transformative and go beyond traditional materials to encourage active learning, critical analysis, and problem-solving skills (Purković et al., 2021).

Integrating technology into Islamic education can transform the learning experience by increasing student engagement, accessibility, and personalized learning, while fostering consideration. In Islamic education, the use of technology must be done wisely and carefully to respect cultural and religious contexts. This ensures that technology enriches knowledge and does not distract from the primary purpose of faith-based learning (Reyaz Ahmad Bhat, 2023).

The policy framework for technology integration in Islamic education is a strategic guide that aims to provide direction, objectives, and concrete steps for implementing technology integration in Islamic education. It encompasses many elements, including monitoring and evaluation, curriculum development, teacher training, and technology infrastructure (Sholeh, 2023). The competency-based curriculum in schools focuses on the abilities and skills students need to perform specific tasks and roles in the future. The goal of this competency-based curriculum is to emphasize real-world application by preparing students to face the challenges of professional roles by focusing on practical and applicable skills that reflect the real world of work (Ummah, 2019).

A policy framework for technology integration in Islamic education is also crucial for guiding and implementing the process of technology integration in Islamic education. With a clear and comprehensive policy framework, educational institutions can harness the potential of technology to improve the quality of education and develop a generation of Muslims who are globally competitive.

Better learning is a shared responsibility. We can build more effective, engaging, and inclusive education by using technology to accelerate and enrich the learning process. While technology integration offers many opportunities, it is ultimately up to individuals to make the decisions and determine their success. We can advance Islamic education in a new era of excellence by equipping students with the skills and knowledge they need to thrive in a changing world. Education can leverage technology effectively to improve the quality of education and develop a generation of competitive Muslims in the digital age.

Conclusions and Recommendations

Based on the research results, it can be concluded that a competency-based curriculum is an approach to education that is structured and focuses on specific student competencies. Covering student skills, knowledge, and attitudes. This curriculum is designed to balance learning objectives with the real-world skills students need to actively participate in society and the workplace.

Its main components are competency-based, flexible scheduling, and personalized learning paths. Technology plays a crucial role in implementing a competency-based curriculum by enabling practical skills development and supporting personalized learning paths (Cao et al., 2023). In competency-based education, students are able to demonstrate proficiency in specific knowledge or skill areas.

References

Abidin, N. Z. (2023). Positive Impact of Gamification on the E-Learning Process. *International Journal of Innovative Science and Research Technology*. 8(6). 627-631. <http://www.ijisrt.com/>

Baharuddin, B., Isnaini, E., & Lusiana, L. (2024). Islamic Education Curriculum That is Relevant to the Challenges of the Times. *East Asian Journal of Multidisciplinary Research*, 3(3), 1045–1060. <https://doi.org/10.55927/eajmr.v3i3.8103>

Benson, M. F., & Njuguna, J. (2023). Effects of Monitoring of Teaching and Learning on the Implementation of Competency-Based Curriculum (CBC) in Early Childhood Development (ECD) Centres in Meru Central Sub-County. *Asian Journal of Education and Social Studies*, 49(3), 120–136. <https://doi.org/10.9734/ajess/2023/v49i31141>

Buckley, J., Seery, N., Power, J., & Phelan, J. (2019). The importance of supporting technological knowledge in post-primary education: a cohort study. *Research in Science and Technological Education*. 37(1). 36–53. <https://doi.org/10.1080/02635143.2018.1463981>

Cao, J., Bhuvaneswari, G., Arumugam, T., & Aravind, B. R. (2023). The digital edge: examining the relationship between digital competency and language learning outcomes. *Frontiers in Psychology*, 14(June), 1–11. <https://doi.org/10.3389/fpsyg.2023.1187909>

Fadli, A. (2022). Planning in The Perspective of Islamic Education Management. 6(12), 1001–1016. <https://doi.org/10.35629/7722-11120509>

Firdaus, A., Amrullah, A., Robiatul Adawiyah, L., Yuliati Zakiah, Q., & Supiana, S. (2023). Enhancing Learning Quality and Student Engagement: Utilizing Digital Technology in Islamic Education. *International Journal of Nusantara Islam*, 11(2), 206–218. <https://doi.org/10.15575/ijni.v11i2.29960>

Halim, A., Jamil, H., Miswanto, M., & Nur Rochbani, I. T. (2023). The Curriculum of Islamic Religious Education in the Whirlwind of Independent Education and Its Implementation in Learning. *Progresiva : Jurnal Pemikiran Dan pendidikan Islam*, 12(02), 261–274. <https://doi.org/10.22219/progresiva.v12i02.29415>

Liana Nurhaeti. (2023). Information and Communication Technology-Based Learning Models in Islamic Religious Education. *DIROSAT: Journal of Education, Social Sciences & Humanities*, 1(1), 1–6. <https://doi.org/10.58355/dirosat.v1i1.1>

Marbun, D. S., & Tohir, K. (2022). Curriculum Change in Indonesia: Study on Competence-Based Curriculum in Islamic Education (An Overview from Theoretical and Practical Points). *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 5(1), 3505–3511. <https://bircu-journal.com/index.php/birci/article/view/4018>

Nurmaliyah, Yayah & Aripin, Syamsul & Nurdiansyah, Nana. (2023). 2013 Curriculum: Implementation of Islamic Religious Education Learning in Schools for Children with Special Needs. *International Journal of Islamic Thought and Humanities*. 2. 124–138. <https://doi.org/10.54298/ijith.v2i1.83>

Mendonça, Y. V. S., Naranjo, P. G. V., & Pinto, D. C. (2022). The Role of Technology in the Learning Process: A Decision Tree-Based Model Using Machine Learning. *Emerging Science Journal*, 6(Special Issue), 280–295. <https://doi.org/10.28991/ESJ-2022-SIED-020>

Mpuangnan, K. N. (2024). Teacher preparedness and professional development needs for successful technology integration in teacher education. *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2408837>

Nurdyanti, Y., Yamin, M., & Mustafa, I. (2022). The Curriculum Basis of Islamic Education Perspective: Ali Ahmad Madzkur. *Nazhruna: Jurnal Pendidikan Islam*.

Nurhana, H., & Asikin, I. (2024). Nilai pendidikan terhadap Amar Ma'ruf Nahi Munkar dalam QS Ali Imran 104 dan 110. *Jurnal Riset pendidikan Agama Islam*, 37–42. <https://doi.org/10.29313/jrpai.v4i1.3870>

Oroszi, T. (2020). Competency-Based Education. 2467–2476. <https://doi.org/10.4236/ce.2020.1111181>

Pittas, E., & Adeyemi, A. (2019). Technology integration in education: Effectiveness, pedagogical use and competence - A cross-sectional study on teachers' and students' perceptions in Muscat, Oman. *Lumat*, 7(1), 101–123. <https://doi.org/10.31129/LUMAT.7.1.396>

Purković, D., Luttenberger, L. R., & Kovačević, S. (2021). The importance of technology in education for sustainability. *Knowledge International Journal*, 46(1), 111–117. shorturl.at/txKRV

Rahman, P., & Mehnaz, S. (2024). Technologies Used in Education. *International Journal for Multidisciplinary Research (IJFMR)*. <https://doi.org/10.2139/ssrn.5054029>

Bhat, R. A. (2023). The Impact of Technology Integration on Student Learning Outcomes: A Comparative Study. *International Journal of Social Science, Educational, Economics, Agriculture Research and Technology (IJSET)*, 2(9), 592–596. <https://doi.org/10.54443/ijset.v2i9.218>

Shehab, H. M. (2022). The effect of technology on learning English as a second language. *International Journal of Social Science and Humanities Research*, 10(4), 474–481. <https://doi.org/10.5281/zenodo.7431770>

Sholeh, M. I. (2023). Technology Integration in Islamic Education: Policy Framework and Adoption Challenges. *Journal of Modern Islamic Studies and Civilization*, 1(02), 82–100. <https://doi.org/10.59653/jmisc.v1i02.155>

Singh, R. M., & Bhuju, D. R. (2001). Development of Science and Technology in Nepal. *Science Technology & Society*, 6(1), 250–251. <https://doi.org/10.1177/097172180100600117>

Suhilmiati, E., Hanika, I. M., Hardiyanti, N. R., Jejen, A., & Sutiapermana, A., (2024). The role of digital literacy in Islamic religious education learning in the technology era at MAN 3 Banyuwangi. *International Journal of Educational Research Excellence*, 3(1), 313–320. <https://doi.org/10.55299/ijere.v3i1.832>

Suraijiah, Rusdiana, Rusdiah, Ramli, M., & Murdan. (2023). The effectiveness of using media technology in Islamic religious education in an independent curriculum: Technocultural study of religious education. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 8(1), 335–349. <https://doi.org/10.25217/ji.v8i1.2760>

Syomwene, A. (2023). Designing Competency-Based Higher Education Curriculum: Strategies and Actions. *European Journal of Education Studies*, 10(7), 23–36. <https://doi.org/10.46827/ejes.v10i7.4862>

Vargas, J., Brassiolo, P., Sanguinetti, P., Daude, C., Goytia, C., Álvarez, F., ... Fajardo, G. (2017). RED 2017. Urban growth and access to opportunities: a challenge for Latin America. Bogotá: CAF. <https://scioteca.caf.com/handle/123456789/1091>

Viet Phuc, T., & Giam, N. M. (2024). Teaching Process for Modules in the Information Technology Major for Higher Students According to the Competency Approach. *International Journal of Current Science Research and Review*, 07(02), 1349–1354. <https://doi.org/10.47191/ijcsrr/v7-i2-53>

Widjajani, S., & Hidayati, S. N. (2014). Di Era Globalisasi. *Makspreneur*, IV(1), 98–115. <https://doi.org/10.37680/qalamuna.v14i1.5078>

Yen, P. H., & Thao, L. T. (2024). Exploring the implementation and perception of competency-based assessment practices among Vietnamese EFL instructors. *Language Testing in Asia*, 14(1). <https://doi.org/10.1186/s40468-024-00300-5>