Review Article

Technology-Driven Curriculum Delivery in Islamic Studies: Implications for Teacher Education

Dr. Ja'afar Agaji Abdullahi[1*], Dr. Rabi Bara'u[2], Dr. Shafi'u Nuhu[3]

[1]Department of Islamic Studies, Federal University Gusau, Nigeria
[2]Department of Curriculum and Instruction, Federal University of Education Zaria, Nigeria
[3]Department of Islamic Studies, Federal University of Education Zaria, Nigeria

*Corresponding author: Dr. Ja'afar Agaji Abdullahi
Department of Islamic Studies, Federal University Gusau, Nigeria

Abstract

The integration of technology into curriculum delivery has revolutionized the landscape of education, particularly in teacher education. This paper explores the implications of technology-driven methods for teaching the Islamic Studies curriculum in the preparation of trainee teachers. The study examines the impact of incorporating digital methods such as digital storytelling, virtual field trips, simulations, and digital drills and practice in teaching specific topics in Islamic Studies. These methods enhance learner-centered approaches, critical thinking, and student engagement. Additionally, the paper addresses the challenges and opportunities associated with implementing these techniques. By understanding the transformative potential of technology, teacher education programs can equip educators with the necessary skills to navigate the evolving educational landscape and prepare Islamic Studies student-teachers to meet the demands of the 21st century.
Keywords: Curriculum, Delivery, Technology, Method, Teacher-Education.

INTRODUCTION

In today's ever-evolving world, Information and Communication Technology (ICT) is integrated into nearly every sector and aspect of life. As noted by Sani and Bakura (2023, p. 329), no critical sector, including education, can progress effectively without incorporating ICT. The integration of technology into curriculum delivery has revolutionized education, especially in teacher training. Technological advancements have inspired greater creativity and innovation among educators, leading to the adoption of internet-based approaches and programmed instruction in teaching. Teachers now employ diverse technological tools and strategies to interact with learners, significantly enhancing the efficiency and effectiveness of teaching and learning, particularly in Islamic Studies.

This paper highlights several technology-driven methods under the technology-based approach, such as digital simulations, digital storytelling, virtual field trips, and digital drills and practices, among others. These methods emphasize the need to integrate modern technology into the instructional process for Islamic Studies. Incorporating modern technology into the classroom provides opportunities to make Islamic Studies lessons more engaging, flexible, motivating, relevant, enduring, meaningful, interactive, and learner-friendly.

Concept of Teaching Methods

Methods are processes or approaches used in teaching. Teaching methods refer to scientific, systematic, orderly, and logical ways of transferring or sharing knowledge, skills, ideas, experiences, norms, beliefs, values, opinions, thoughts, feelings, aspirations, and expectations from the teacher to the learner during the instructional process. Elkevbo (2022) defined teaching methods as encompassing the principles, strategies, and techniques employed by teachers to facilitate student learning. For learning to be more permanent, engaging, and retained, teacher educators must select the most appropriate tools, channels, or approaches for transferring content knowledge or skills to learners.

The selection of teaching methods is often guided by specific factors (Christian, 2018; Uyagu &

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Bara'u, 2020). These factors include the nature of the subject matter, the topic, the objectives to be achieved, the characteristics of the learners, the teacher's capacity to use the method, and the available resources. Additional considerations include the availability of learning materials, class size, learning space, and the time required to effectively implement the selected methods. When these factors are carefully considered, teaching and learning become more effective.

Efficient teaching methods are essential tools that empower both teachers and learners to achieve success in the classroom. When teaching methods are thoughtfully selected and skillfully implemented, the teaching and learning process becomes more meaningful, engaging, interactive, and dynamic, thereby enhancing students' interest and motivation. As Nuhu and Sani (2017, p. 65) and Sani (2017, p. 76) highlight, students' interest and motivation play a critical role in achieving overall academic excellence.

Examples of technology tools used to enhance these methods are presented in Figure 1.

Figure 1: Pictures of Devices for Technology-Centered Methods

Figure 1 illustrates various devices used for delivering instruction in Islamic Studies. These devices are both flexible and portable, offering significant advantages such as making teaching and learning more engaging, motivating, lively, individualized, interactive, meaningful, realistic, enduring, and collaborative. However, these methods come with challenges, including high costs, the need for specialized skills, issues with network reliability or poor internet connections, inadequate power supply, and software-related problems. These challenges, as highlighted by Sama (2017, p. 31), present setbacks to the implementation of technology-centered teaching methods in Nigeria. Despite these obstacles, the use of technology in education today is not only inevitable but also essential and a necessity rather than a mere choice.

Characteristics of Technology-Based Methods
Technology-based methods of teaching (TB) are effective and successful only when they fulfill the following qualities:
   a. They require a reliable source of electricity or light to function.
   b. They depend on supporting facilities such as computers, tablets, sophisticated smartphones, projectors, and other multimedia tools.
   c. Most methods require access to a strong and stable internet connection.
   d. They necessitate data subscriptions for functionality.
   e. Users must possess technical know-how, including the ability to operate the devices and implement the methods effectively.
   f. Physical presence of the teacher may not always be required.
   g. Learning activities can occur outside traditional classroom or school settings.
   h. Many of these methods provide immediate feedback to learners.

Some Technology-Based Methods of Teaching in Islamic Studies
Technology or internet-based methods of instruction come in various forms. As technology continues to be integrated into all aspects of human life, teaching and learning are no exceptions. Islamic Studies, taught at the basic, secondary, and tertiary levels, is an essential subject because it addresses societal beliefs that curriculum planners and developers value and respect. Integrating certain technology-based methods in teaching specific topics is highly relevant and can enhance the instructional process.

There are many methods under this approach, including but not limited to gamification, flipped videos, digital Seesaw, digital drills and practice, digital field

trips, digital storytelling, digital discussions, digital simulations, digital jigsaw, video conferencing, Zoom, digital demonstrations, virtual reality, and augmented reality, among others. These methods can be applied to various aspects of the Islamic Studies curriculum. However, only four methods are selected and discussed below: digital simulation, digital storytelling, digital (virtual) field trips, and digital drills and practice.

Digital Simulation Method of Teaching

Simulations are dynamic representations that allow students to form and test mental models through experimentation. In the digital simulation method, tools, gadgets, equipment, or facilities are used to display learning tasks. Instead of the learner performing the simulation, machines, along with programmed games or tasks, are readily available in the form of software to simulate roles, messages, or ideas.

The purpose of the simulation is presented to the learners to encourage exploration, brainstorming, and responses to thought-provoking questions. Blankman (2022) adds that the teacher can project the simulation as a whole-class teaching tool by displaying the video on an interactive whiteboard. This modeling can demonstrate how to use the simulation to facilitate the learners' thinking.

Digital simulation is particularly relevant in areas that may be difficult to reach, expensive to afford, dangerous, or hazardous to human health (e.g., chemicals in laboratories, workshops, or attacks and defense scenarios in a battlefield). Since digital simulations are representations using images, motion, or videos that closely resemble real-life situations, they motivate learners, particularly those who are visual or audiovisual learners. This method facilitates recall, prevents risk, and avoids stigmatization. It is especially useful for science-based, technical, vocational, skill-oriented, and moral lessons.

In Islamic Studies, topics such as Hajj, Tawaf, Sa'ayi, Islamic battles, performing a Raka'at, Wudu'u, Janaza, and Eid prayers can be simulated using virtual or augmented reality, as well as through programmed role play. Both teachers and students can engage with machines or relevant software to deliver instruction, offering a practical insight into the topics.

The role of the Islamic Studies teacher educator in this method is to guide student teachers in preparation, provide a conducive learning environment, ensure the availability of adequate and relevant technological resources, and test the technical quality of the facilities to be used. The educator should possess technical knowledge of the facilities or arrange for a technician and prepare relevant, thought-provoking questions based on what the learners observe and study.

Digital Storytelling Method of Teaching

Digital storytelling involves using technology to tell a story or present history. It is a recorded, programmed story presented electronically using devices such as computers, smartphones, or projectors. Teachers use stories to engage learners at the start of a lesson, entertain them, create a lively and relaxed atmosphere, generate curiosity, and convey important messages. In traditional methods, stories were told orally by the teacher, but with the advent of technology, these stories are now programmed and stored for use by both teachers and learners. This method appeals to diverse learning styles.

As programmed stories, this method combines audio, images, and text to share information on a specific topic (Distance Education, 2022). The goal is to create a stronger emotional connection with the audience by using spoken words and a blend of multimedia to convey the story. Additionally, integrating spoken and written text, maps, and social media elements enhances learners' comprehension of the content.

Programmed stories in Islamic Studies could cover topics such as the history of the Jahiliyyah period, the life of the Prophets, the spread of Islam, the compilation of the Qur'an, and Islamic battles.

Stages to Apply Digital Story Telling Method
The following are the steps to follow for the successful use of the digital storytelling method:
i. Identify the objective of the lesson.
ii. Select a relevant virtual story (software).
iii. Allow for viewing (either whole class or individual).
iv. Create engaging activities.
v. Encourage thought-provoking and challenging questions.
vi. Ask for feedback.

In this method, learners (whether as a whole class or individually) are expected to carefully listen to the story, watch the images, read the text, comprehend the message of the story, and respond to the questions related to it. Subjects such as History, Social Studies, Art, Civic Education, Geography, and Government are particularly well-suited for this method.

The Islamic Studies teacher educator is responsible for organizing the class, managing noise and distractions, and preparing the learning environment with all the necessary facilities and materials. The educator must also test the quality of materials ahead of time, motivate learners to maintain interest, ask relevant and meaningful questions, and reinforce or reward appropriate responses. In this method, the teacher is no longer just a "reservoir of knowledge" as in traditional storytelling. Most digital stories focus on one specific topic and present a particular point of view. Educational digital stories typically last between 2 to 10 minutes

(Bouchrika, 2023); if the duration exceeds 10 minutes, it may lead to distractions. Story tools that can be used include Storyboard, Anchor Platform, Storybird, WeVideo, or Book Creator.

Digital (Virtual) Fieldtrip Method of Teaching

Digital fieldtrips, also known as Virtual Fieldtrips (VFT), are guided explorations through the World Wide Web (WWW) that organize a collection of pre-screened, thematically-based web pages into a structured online learning experience (Foley, 2007). Virtual fieldtrips are considered an effective way of organizing the educational potential of the internet in a coherent and appropriate manner, especially for primary and secondary education. These fieldtrips typically contain a selection of topic-specific web pages, compiled into a grade-targeted package, and are often provided by commercial distributors such as Tramline (www.tramline.com).

According to Nix (1999), VFT can be classified into two forms:

A. Dynamic and Interactive Form: This is a freely available, up-to-date, and much more expensive suite of astro-biology-related content (vft.asu.edu).

B. Non-Interactive Form

This consists of a collection of images, supporting text, and/or other media delivered electronically via the World Wide Web (WWW), often professionally presented to relate the essence of a visit to a time or place. A live link with experts on site in real-time creates a real experience for students, as seen in programs like LEARNZ VFT.

The conventional fieldtrip has several risks, such as the potential for road accidents when transporting students to distant locations, insufficient funds for travel, delays in accessing locations, and safety concerns when interacting with chemicals or animals. In contrast, VFT alleviates the teacher's preparation time and reduces the stress placed on school management. Virtual fieldtrips bring the outside world into the classroom, enabling students to explore and experience places, things, and people that would otherwise be inaccessible. It provides an opportunity to see and experience the world without leaving the classroom.

VFTs can be accessed through websites such as Discovery Ed, LEARNZ, Tramline.com, Pilbara.org.edu.au, and vft.asu.edu, among others.

In Islamic Studies, relevant topics for this method include software programs that simulate visits to cities such as Makkah, Madinah, Muzdalifah, Uhud, and Mount Arafat, as well as Masjid al-Quba, Mina, and different types of places of worship (mosques, churches, shrines). Other topics may include virtual visits to hospitals, graveyards, orphanages, or prisons (under Tahdhib). These virtual visits allow students to experience these locations without needing to physically visit them.

Stages to Conduct a Virtual Fieldtrip

For a virtual fieldtrip to be conducted successfully, the following six strategies, as cited in Bara'u (2024), can be adopted:

a. Identify the objectives of the trip.
b. Select the relevant virtual fieldtrip software.
c. Design an engaging experience.
d. Use the "Know", "Want to know", and "Learn" (KWL) strategy.
e. Encourage students to process and document their learnings.
f. Encourage students to demonstrate what they learned.
g. Roles of Learners in Virtual Fieldtrips

In this method, learners are expected to develop interest, concentrate, and pay attention. They should actively engage in the learning process by displaying positive signals such as smiling, nodding, jotting down notes (in the case of whole-class viewing), raising questions, seeking clarification, contributing to discussions, or responding to questions (depending on the learner's level and whether they are viewing individually).

Roles of the Teacher in Virtual Fieldtrips

The teacher's role in this method includes:

a. Preparing themselves and the environment.
b. Providing the necessary materials and facilities.
c. Ensuring adequate and uninterrupted power supply.
d. Testing the technical quality of tools, devices, materials, and facilities.
e. Organizing and controlling the class.
f. Selecting relevant websites, software apps, and learning tasks for the students.
g. Preparing engaging activities or questions to facilitate feedback and monitor learner participation.

The method is also applicable in subjects such as Basic Science, Basic Technology, Social Studies, Business Studies, Agricultural Science, English, Cultural and Creative Arts, and others.

Digital Drill and Practice Method of Teaching

The drill and practice method is one of the oldest teaching techniques, commonly used for younger learners, skill training, vocational courses, or for achieving mastery in specific concepts. The core principle of drill and practice is that "practice makes perfect," as it involves students repeatedly practicing content they have previously learned (Chan, 2015). The drill and practice software provides opportunities for students to work through problems or examples one at a time, receiving immediate feedback on their performance (Quizlet, n.d.). These platforms help

students learn or review content, providing exercises and activities designed to improve their skills and knowledge in a given subject or discipline, such as Islamic Studies (Singh, 2023).

The method serves as a supplement to traditional drill and practice and other relevant methods, enabling learners to review and practice concepts independently, which can significantly enhance the regular learning process. Drill and practice methods are categorized into three main types:

1. Flashcard activities (e.g., Quia, Quizlet)
2. Branching drills (e.g., Flashcard Deluxe app)
3. Extensive feedback activities

These software tools and websites provide immediate feedback to students, saving teachers time on instruction and grading while allowing learners to monitor their progress, stay motivated, and improve academic performance.

In Islamic Studies, topics for drill and practice methods include Qur'anic memorization, Sunnah, acts of ablution and Salat (compulsory, mustahabb, and prohibited acts), articles of faith, the pillars of Islam, attributes of Allah, Hadith memorization, and memorization of chapters from the Holy Qur'an. This method is highly effective for memorization and mastery but does not necessarily promote deep comprehension of the content. Relevant software can tailor this method to the local needs of students and teachers.

Other subjects that suit the drill and practice method for younger learners include, but are not limited to, basic elementary Math (numeracy), languages (literacy), Science, Music, Dance, Drawing, and History. The method also incorporates interactive exercises, games, and quizzes, which make learning fun, motivating, and engaging.

Stages for the Successful Use of Digital Drill and Practice Method

The following stages can be followed when using drill and practice. These stages may vary slightly depending on the software or website used and the category of drill and practice.

i. Introduce the lesson to the students and inform them of what is expected.
ii. Download the software or access the website.
iii. Create and share flashcards with students.
iv. Set up the flashcard link.
v. Choose how to study the flashcards.
vi. Click on the Quizlet logo to practice flashcards created by the teacher.
vii. Request feedback from the students.

The method is capital-intensive, but it is flexible and user-friendly. It allows for substantial practice, leading to mastery, provides immediate feedback, and

allows learners to progress at their own pace, accommodating individual differences.

Challenges of Technology-Based Methods

As noted by Abdullahi & Sani (2016), the integration of science and technology in Nigerian education has faced significant setbacks due to its low status and various challenges in policy implementation. Some of these challenges are:

a. Technophobia among teachers and students.
b. Epileptic power supply.
c. Shortage and high cost of software applications in Islamic Studies.
d. Lack of relevant software applications tailored to the local needs of Islamic Studies staff and students.
e. Inadequate preparation and readiness of teacher educators in Islamic Studies.
f. Weak or unreliable internet connections.
g. Inaccessibility or high cost of devices, making them unaffordable for parents, teachers, and students.
h. High data consumption or subscription costs.
i. Lack of relevant facilities to enable the effective use of these methods.

These challenges hinder the full potential of technology-based teaching methods and require focused attention to overcome.

CONCLUSION

Digitalization has become an indispensable aspect of education in Nigerian schools, particularly in teacher training institutions. For Islamic Studies teacher educators, embracing technology in the instructional process is no longer optional but a necessity to remain relevant and effective. Although this paper has discussed some specific digital methods, the scope of technology in education extends to advanced tools such as Artificial Intelligence (AI), Virtual Reality (VR), and Augmented Reality (AR). The sooner Islamic Studies teachers and students integrate technology into teaching and learning, the more enriched and efficient the educational process will become.

Recommendations

To ensure the effective and successful implementation of digital teaching methods in Nigerian schools, the following recommendations are proposed:

1. Adjusting Teacher and Learner Schedules:

School management should revise busy schedules to accommodate digital learning, making it more motivating, user-friendly, and flexible. This can reduce the perception of digital learning as a burden and encourage active commitment from both teachers and students.

2. Provision of Reliable Power Supply:
Governments, school management, communities, or NGOs should invest in alternative power solutions, such as solar installations, inverters, or generators, to ensure uninterrupted electricity for digital tools.

3. Self-Development and Training for Teachers:
Teachers should take the initiative to update themselves on emerging software and digital methods through online resources. School heads should organize regular training programs on digital instructional methods and motivate teachers through awards, commendations, and other incentives, such as data subscription bonuses and promotions.

4. Development and Accessibility of Localized Digital Tools:
Governments, NGOs, curriculum experts, and individual teachers should collaborate to create and share localized, affordable, and easily accessible software that meets the specific needs of Islamic Studies teachers and learners.

5. Provision of Technology Tools and Gadgets:
School management, governments, and parents should provide essential digital tools such as computers, smartphones, projectors, interactive boards, and software. Support for acquiring these tools can come from stakeholders, including philanthropists and NGOs.

6. Encouraging Donations and Improvisation:
School authorities should actively engage NGOs, politicians, philanthropists, and parents to donate expensive digital tools or resources. Additionally, schools should encourage teachers and learners to improvise where possible, offering training programs on how to create and utilize low-cost digital teaching aids effectively.

7. Installation of Strong Network Connectivity:
Strong internet connectivity should be installed and maintained throughout schools, including classrooms, offices, cafes, hostels, and surrounding areas. This will enable students and teachers to conduct research, complete assignments, and engage in self-study efficiently.

8. Providing Data Allowances for Teachers and Students:
Governments, school heads, or NGOs should offer regular data subscription allowances for teachers, categorized according to their level of technology use. Similar incentives can be extended to students to motivate them to use digital tools for learning purposes.

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