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Technology Integration and Teachers' Professional Development in Somalia

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Abstract

Technology integration and teachers' professional development in Somalia aims to examine the connection between teacher training and the use of education technology in Somali classrooms. Somalia faces considerable challenges in its education system due to years of conflict, but it is working to incorporate technology as a means to improve teaching and learning. While mobile phones and computer labs have expanded access, many teachers lack the skills to effectively utilize technology for instruction. Ongoing professional development is crucial for building digital literacy and pedagogical strategies among instructors. This paper analyzes the current status of integration efforts in Somalia and the challenges that remain, such as inadequate infrastructure and financial support limitations. It discusses recommendations including prioritizing long-term, skills-focused teacher training programs; encouraging collaborative communities; strengthening partnerships for expanded access to development; and employing blended learning models for flexible professional learning solutions. The paper concludes that investment in technology resources and teacher capacity building holds promise for advancing education quality and outcomes in Somalia.

Keywords: Challenges, Strategies, Teacher professional development, Technology Integration.

Introduction

Technology integration in education has developed into a global trend in recent years with the goal of improving teaching and learning procedures. The Horn of Africa nation of Somalia has likewise realized the value of incorporating technology into its educational framework. The use of technology in education has grown more crucial in the ever-changing world of today. Technology has the ability to completely transform education, giving students unprecedented opportunities for engagement, exploration, and success. There is strong evidence that information and

communication technologies support effective teaching and learning environments for both students and teachers (Tedla, 2012). One of the main concerns in educational institutions is the need to help teachers achieve higher levels of technical literacy so they can choose technology tools and pedagogical techniques so they can use such resources to teach successfully(Dysart & Weckerle, 2015). (Barksdale et al., 2021) argued that teachers must acquire support, training, or professional development (PD) experiences in order for them to effectively integrate technology into their subject areas and classrooms because they frequently teach what they know and have experienced.

Despite the difficulties the nation faces, technology integration and teacher professional development in Somalia are gradually improving. Mobile technology use and the establishment of computer labs have given students and teachers new opportunities. However, in order for technology to be effectively employed in educational settings, teachers must complete the necessary training through professional development programs. In Somalia, teachers hardly receive general professional development training opportunities, let alone, getting pieces of training that are tailored to their specific needs like integrating technology knowledge and skills into their profession in order to cope with the growing demands of their work. Although the situation was poor as described above, for the last few years, teachers' professional development and their familiarity with education technology have improved quite well.

According to Haydar(2014), Somali educators deal with issues like a dearth of quality teaching resources. Regarding professional advancement, they lack access to high-quality training programs and opportunities for graduate study. There appears to be a disconnect between the quantity of technology present in today's classrooms and how effectively teachers are utilizing it (Kopcha, 2012). In Somalia the problem is twofold; first, the required materials like computers are not made available for most of the schools, and for those schools that are lucky enough to have, unfortunately, lack teachers who are sufficiently trained to use the materials effectively. Pre-service and in-service programs must therefore be balanced, and robust continuous professional support programs—particularly those that integrate technology for teachers—must be developed (Nakabugo et al., 2011)

The purpose of this paper is to examine the connection between teacher professional development in Somalia and the use of technology in the classroom.

Technology Integration in Education

Technology integration refers to the deliberate use of technology tools and resources to enhance teaching and learning experiences (Kwangsawad, 2017). It involves seamlessly incorporating technological tools such as computers, tablets, interactive whiteboards, educational software applications, online platforms, or resources into instructional practices. Effective technology integration goes beyond mere substitution; it transforms pedagogical approaches by promoting active engagement with content through collaborative activities or multimedia presentations (Cyfeku, 2022)

The use of various technological tools and resources in the classroom to improve teaching and learning processes is known as technology integration(Zhou et al., 2022). Technology has enormous potential to increase student engagement, enhance critical thinking skills, encourage student cooperation, and offer individualized learning possibilities when used with purpose (Hanshaw & Hanson, 2019).

Despite these advantages, using technology into education also comes with a number of difficulties. Due to a lack of knowledge with specific technologies or uncertainties about their efficacy, some educators may encounter resistance or reluctance (Bicer & Capraro, 2017). Additionally, teachers could find it challenging to control gadgets or resolve technological problems in the middle of a lesson. Therefore, sufficient training and assistance are crucial elements for a successful technological integration.

Importance of Teacher Professional Development

Professional development is crucial for improving teaching practices because it provides teachers with information on modern pedagogical approaches and powerful instructional techniques (Barksdale et al., 2021). Continuous learning gives educators the chance to reflect on their own work while keeping them informed of new developments in the field of education.

Teachers can learn the skills necessary to effectively use digital technologies in their classrooms by participating in professional development programs for teachers that are explicitly focused on integrating technology(Zhou et al., 2022)**.** Teachers can better support students' relevant learning experiences by developing their technical literacy skills and pedagogical expertise about integrating technology. When supported by professional development, instructional technology

integration occurs at all grade levels and in all subject areas. Integration of technology into instruction to influence student learning is the aim of good professional development in technology (Kwangsawad, 2017).

To improve their technology proficiency and instructional methods, teachers in Somalia have access to training programs. For instructors to learn how to use technology into their teaching methods, a number of organizations and NGOs have held workshops and training sessions. These initiatives are designed to acquaint teachers with various teaching tools, including interactive whiteboards, teaching software, and online resources. The training also emphasizes enhancing instructors' digital literacy abilities and their capacity to design technologically compelling and interactive lessons.

Additionally, several colleges and schools in Somalia have programs and courses that are specially created to instruct teachers on how to integrate technology. These programs give educators the information and abilities they need to successfully integrate technology into their classrooms.

It is crucial to remember that it is still difficult to give all Somali teachers access to thorough professional development opportunities and those who get access to the technology need training so that they can properly handle their tasks. Many teachers lack the fundamental knowledge and abilities needed to use technology, such as an awareness of how to incorporate it into their lesson plans (Mohamed Isse Sidow, 2023). The scalability of these projects is hampered by a lack of funding and accessibility to training courses. To guarantee that teachers can continuously upgrade their abilities and adopt new technology, ongoing assistance and follow-up training are also crucial.

Current Status of Technology Integration in Somalia

Due to its long-running civil conflict and political unrest, Somalia has had several difficulties in its educational system. However, as peace and security have slowly returned, the nation has been working to incorporate technology into its educational system.

According to Barksdale et al.,(2021), The condition of integrating technology in education is still in its infancy. The country faces a number of difficulties, including inadequate resource access and technical infrastructure

The government of Somalia getting support from donors succeeded in improving the education technology conditions in schools. For instance, the installation of computer laboratories in schools is one of the major projects for technology integration. Students have access to computers and the

internet in these labs, enabling them to gain digital literacy skills and access online learning materials. The Somali government has been working to get schools computer laboratories, together with NGOs and international agencies.

Additionally, the integration of technology in Somalia has been significantly aided by mobile technology. Teachers and students can use a variety of educational apps and platforms thanks to the broad availability of mobile phones for educational reasons. Students who are unable to attend traditional classroom settings can also benefit from distance learning options thanks to mobile technology.

It's crucial to remember that despite these initiatives, there are still major obstacles to be addressed. Effective technological integration is hampered by a lack of infrastructure, particularly dependable electricity and internet connectivity. Additionally, there aren't enough instructors who have the necessary training to use technology in the classroom successfully. Due to a lack of resources or access, many Somali educators are also unaware of professional development programs that focus on integrating technology (Zhou et al., 2022). These obstacles obstruct efforts to successfully incorporate technology into schools across the nation.

Strategies for Integrating Technology with Teacher Professional Development

Four fundamental professional development strategies that are useful for incorporating technology into education have been recommended by UNESCO (2005). The first tactic is the requirement for professional development to concentrate on teaching needs to be prioritized over focusing on technology and software, and second access to technological resources is provided. The third method is that professional development activities including the use of ICT should be ongoing procedures rather than a one-time event. One-time-only workshops are not seen to be particularly successful at easing teachers into using ICT. The fourth tactic is to begin professional development in a modest manner by training a limited number of teaching staff members who will then train further teachers (AduwaOgiegbaen, 2009).

Hennessy et al.(2015) reported that It is becoming more and more obvious that we need to start establishing capacity for twenty-first-century learning and teaching, and that developing digital technology use may play a significant role in raising educational quality and improving outcomes in Sub-Saharan Africa.

A multifaceted strategy that includes infrastructure, access to technology, digital literacy, training, locally relevant material, collaboration, policy, and finance is necessary for technology integration and teachers' professional development in Somalia. Somalia may advance in utilizing technology to improve education and empower its teachers and students by making investments in these areas and creating a welcoming environment.

Several tactics can be used to overcome the existing challenges and encourage technology integration in Somalia's educational system:

- Collaboration on effective technology integration techniques is made possible by creating communities where teachers may exchange knowledge, lessons learned, and ideas with one another. (Hanshaw & Hanson, 2019).
- Using micro-learning modules gives teachers access to quick bits of knowledge that are pertinent to their current needs or interests. While limiting time constraints, this strategy encourages continual learning (Hanshaw & Hanson, 2019).
- Adopting blended learning methods, which integrate in-person interactions with online resources, gives teacher professional development programs flexibility while providing individualized learning experiences (Bicer & Capraro, 2017).

Benefits of Integrating Technology with Teacher Professional Development

Technology integration into teaching methods has a number of benefits. First of all, technology offers individualized learning experiences catered to the student's requirements and skills. Using online learning platforms or adaptive learning technologies that deliver customized education based on students' performance levels, instructors can better meet the needs of various learners (Zhou et al., 2022).

Second, incorporating technology encourages pupils to be more engaged and motivated. Digital resources' interactive multimedia features engage students' attention more so than conventional textbooks or lectures. Integrating gamification features into educational software programs also encourages intrinsic motivation by making learning enjoyable and rewarding.

Thirdly, technology creates chances for worldwide and intraclassroom collaboration and communication. Students can communicate without physical restrictions with friends from various cultural or geographic backgrounds using online discussion boards or video conferencing capabilities. Such collaborative settings promote a feeling of global citizenship while fostering the vital communication skills required for success in the future.

Challenges in technology integration.

The approach of integrating technology with teacher professional development in Somalia may provide a number of difficulties: Despite the advantages of technology integration, teachers frequently encounter difficulties when incorporating technology into their lessons. One major obstacle is the lack of infrastructure and resource availability. The efficient implementation of technology integration projects is hampered, especially in schools with tight budgets, by a lack of finance or outmoded technology equipment.

Teachers' lack of proficiency in using technology tools efficiently is another difficulty. Many teachers in Somalia haven't had enough professional development chances or training to improve their digital literacy and effortlessly incorporate technology into their teaching methods (Rowston et al., 2022). Other authors like (Bicer& Capraro, 2017) further explained complications that are related to resistance to change Due to apprehension or worries that pedagogical approaches would diverge from conventional ones, some educators may be reluctant to utilize new technologies (Bicer & Capraro, 2017). Continual assistance and clear advantageous explanations can help reduce resistance.

Conclusion

Even though Somalia confronts several obstacles in its efforts to integrate technology into education, the government, NGOs, and development partners are persistently working to make progress. More schools are getting computer laboratories and other technology-educational facilities as investment slowly expands access to resources and infrastructure. To feel competent and confident using technological tools for instruction, teachers need to undergo focused training in addition to the gear that is provided to them. The advantages that technology provides to teaching and learning can be fully realized with increased teacher professional development that focuses on pedagogical strategies for technology integration. Future collaborative learning environments and blended learning strategies appear to have promise for delivering consistent, job-integrated support to help teachers overcome challenges. Somalia can create an educational system that uses technology to enhance 21st-century abilities in all students if priorities and resources keep stressing teacher capacity building along with access.

Recommendations

- Prioritize and increase financing for long-term professional development programs aimed at enhancing teachers' digital literacy skills and capacity for successful technology integration pedagogy. Training that is persistent and skills-focused over time is essential.

- Encourage teachers to work together in networks and communities to share lessons and ideas for technology integration that work best through peer learning and support.
- To increase access to pre-service and in-service training programs, and strengthen cooperation and coordination between important stakeholders like the Ministry of Education, universities, and foreign organizations.
- Keep improving the digital infrastructure that is required for teachers to use integration skills they have learned in professional development activities, particularly reliable electricity and internet connectivity.
- Use blended learning strategies that combine online and offline materials to give teachers flexible, personalized professional development that is technology-focused.
- Implement tactics to deal with possible teacher opposition to change by articulating the advantages of integration clearly and providing continuing coaching and support. Early resolution of issues can boost initiative participation.

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