

Research Article

Views of Secondary School Teachers Towards Using Technology: The Case of Jimma Town

Muleta Kebebe, Kedir Akasha, Bekalu Ferede*

Educational Planning and Management, Jimma University, Jimma, Ethiopia

Abstract

This study aimed to investigate teachers' perceptions of technology use in secondary schools located in Jimma town. The research focused on two primary questions: what secondary school teachers think about using technology for teaching, and what challenges they encounter while implementing it. A qualitative research approach was utilized, incorporating interviews with both academic and ICT teachers to gather primary data. The study was conducted in two carefully selected secondary schools using purposive sampling, involving a total of 12 participants. The interviews collected were coded and organized by themes for analysis. The results indicated that one prominent theme was teachers' beliefs, which included two sub-themes: pedagogical beliefs and value beliefs. Another significant theme revealed teachers' perceived challenges in using technology, which encompassed four main aspects: inadequate training, insufficient technological resources, personal attributes, and lack of technical support. Based on these findings, the study suggests that effective implementation of technology policies is crucial. This includes continual reviews, evaluations, and supervision, alongside providing both material and human resources. Attention must also be given to the availability of technological resources for teaching and learning. Additionally, ongoing professional development for teachers regarding technology integration in the classroom is essential. Finally, having dedicated ICT technicians available in schools is recommended to enhance the effectiveness of technology use in educational settings.

Keywords

Technology, Teachers, Challenges, Implementation

1. Introduction

Educational technology is defined as the study and practice of enhancing teaching and learning through the effective use of processes, resources, and mechanisms [1]. It aims to improve instructional quality by assessing, designing, developing, implementing, and evaluating learning environments and processes [2]. The integration of technology in education is increasingly recognized as essential for modern curricula globally [3].

Research highlights various benefits of educational tech-

nology, such as engaging students, improving their skills, and creating enriched learning environments [4]. It allows for student-centered learning, where learners can choose when and how to engage with materials [5]. The COVID-19 pandemic underscored the importance of technology, as schools adapted to remote learning using various platforms and tools [6].

However, there is a disparity in technology adoption across schools, particularly in developing countries like Ethiopia,

*Corresponding author: feredebekalu@gmail.com (Bekalu Ferede)

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where challenges persist despite teachers' positive attitudes towards technology use [7]. The Ethiopian government has initiated programs to enhance educational technology, such as the introduction of Plasma TVs in schools [8].

In the 21st century, learners require new skills that traditional education methods may not adequately provide, prompting a need for teachers to adapt their practices [9]. Constructivist theory underpins the need for active engagement in learning. Despite recognizing the importance of technology integration, teachers often face obstacles such as insufficient administrative support and inadequate infrastructure [10].

This research aims to explore teachers' perspectives on technology use in secondary schools in Ethiopia and identify the challenges they encounter, emphasizing the need for systematic studies to inform policy and improve educational practices.

Over the last thirty years, classroom technology has dramatically increased, shifting the discussion from whether technology belongs in education to how it can enhance learning [11]. However, many schools, particularly in developing countries like Ethiopia, struggle to effectively utilize this technology for learner-centered applications. While some educators advocate for technology-enhanced learning [12], others express concerns about its effects. Teachers' attitudes play a crucial role in technology adoption; although many studies indicate positive attitudes toward technology among teachers, this cannot be generalized. Negative beliefs can hinder technology integration, with some educators preferring traditional teaching methods and opposing technology use [13].

Research shows that teachers are more likely to use technology if they believe it adds value [14], and those with constructivist beliefs tend to integrate technology more effectively [15]. However, teachers' beliefs can also impede overcoming other barriers.

Studies found substantial challenges faced by teachers in Addis Ababa, including inadequate access to technology, unreliable power supply, high costs, and computer illiteracy among staff. It was identified insufficient training and budget constraints as critical issues in the Illubabor Zone. Despite previous research, a significant gap remains in understanding teachers' perceptions regarding technology use in secondary schools in Jimma town. Therefore, this study attempts to answer the following basic research questions.

- 1) What are teachers' views towards technology use in teaching-learning process?
- 2) What are the challenges teachers faced when they use technology?

2. Objectives of the Study

2.1. General Objective

The general objective of the study is to explore teachers'

views towards using technology in selected secondary schools of Jimma Town.

2.2. Specific Objectives

- 1) To identify teachers views about technology use in their course activities.
- 2) To describe challenges determining their experience regarding technology use.

3. Methodologies

The study employed a qualitative research approach to explore secondary school teachers' perceptions of technology use in the classroom, grounded in a constructivist paradigm to understand their subjective experiences. A phenomenological technique was used to gain insights into these experiences.

The researchers utilized both primary sources (ICT and academic teachers from selected secondary schools) and secondary sources (reports and training materials related to technology use). Two secondary schools were chosen, and purposeful sampling was used to select teachers based on their experience and the year of establishment. Teachers were grouped into three departments (natural science, social science, and ICT), with two teachers from each department selected using maximum variation sampling. Snowball sampling was also employed to identify additional participants.

Rich qualitative data was gathered through one-on-one interviews conducted in the schools. After obtaining permission from the education office, researchers scheduled data collection, developed interview guides, and informed participants about the study's purpose, ensuring confidentiality. Interviews were held in the ICT laboratory. The data were analyzed using qualitative methods aligned with the phenomenological approach. The researchers transcribed interviews, coded the data, and organized it into themes, ultimately translating responses from Afan Oromo to English. The study adhered to ethical standards, with participants informed about the study's goals and provided with an information sheet detailing the study's aims.

4. Discussion

As the study is qualitative in nature, our intention was not to give a generalized conclusion about Teachers views on technology use in education. We rather tried to explore teacher views and challenges they faced while using technology for teaching. Using technology in education is very crucial to develop students competent of learning. The study is drawn on interviews of teacher participants from Jiren secondary school and Mole Mendara secondary school in Jimma town. An attempt was also made to identify the views of teachers on the issues.

While the majority of participants acknowledged that they

don't always employ this tactic, they all agreed that student-centered learning is superior to lecture-based instruction from their pedagogical standpoint. It is acknowledged that because of the large number of students in the classroom, most teachers do not use active teaching methods. The next thing to note is every participant acknowledged the different roles that teachers and students play in the learning process. It seems from the participant responses that only ICT teachers derive value from using technology into the classroom. Due to the disruptive behavior of other students, some of them go so far as to forbid students from using cell phones in class. When it comes to using a computer or any other technology in class, some teachers prefer to keep quiet. These teachers don't forbid or permit their pupils to use technology for learning. From this, it can be understood that the majority of teachers do not value the use of technology in the classroom.

Most teacher respondents gave their justification for believing that the network's disconnection of technology practices was due to teachers' attitudes. They claimed that other subject teachers might overlook technology because they believe ICT teachers are superior to it. This is an attitude issue, as teachers resist using technology to advance their own learning, despite facing their own technological challenges. They might approach materials in a different way. The majority of teachers who responded felt that their negative attitudes toward technology prevented them from using it to improve their pedagogy.

Training development is another challenge that includes teachers self-training from videos and continuous technology use practice and capacity building interventions organized by schools. The study's conclusions include the lesson that a deficiency in pedagogical training contributes to technology policy in the teaching and learning process. The participating teachers lacked the training required to make the most of technology in the classroom. They felt that in order to keep up with the rapid advancements in technology, they had to continuously refine their methods of instruction. Otherwise, they would find it challenging to use technology into the curriculum. The data showed that most teachers did not use computers or the internet for instructional purposes. It was startling how little they understood about the benefits of technology or the reasons behind its application in the classroom. They were the kind of people who preferred to continue with their outdated educational practices since they were unable to use technology, which contained modern teaching and learning resources.

It can also be understood that the absence of technology resources was another stinging obstacle to use technology in the classrooms by teachers. According to the study, a greater number of teachers had little to no access to the technological tools that their schools provided. Additionally, the study demonstrated that the sampled schools lacked the requisite infrastructures for technology. Even the school's ICT classes lack adequate computers and network connections. It was discovered that one school did not have plasma televisions in

the classrooms. Not even a shared computer was available for the departments to use in their own offices for schoolwork. There weren't any printers and limited Wi-Fi service area in the schools. The school copy machines are likewise in a problem.

One more thing that was discovered was that the schools had problem of technical support. A lot of broken computers are collected in ICT classes because the teachers didn't have the technical know-how to have them fixed so that both the teachers and the students could use them. Nobody with the necessary technological know-how was available to fix the teaching computer. In addition to fixing broken computers, the technician will handle any issues with connectivity that crop up during the teaching and learning process. The issue of unfixed computer malfunctions hinders the implementation of technology policies. It was understood that technicians are not assigned for the schools.

5. Conclusions

This study highlights the complex interplay between teachers' attitudes, training, and resource availability in their use of technology within educational settings. While the majority of teachers recognize the potential benefits of technology for facilitating student-centered learning, many factors hinder effective implementation. A significant number of participants noted that their negative attitudes toward technology, compounded by inadequate pedagogical training and a lack of technological resources, limit their engagement with digital tools in the classroom.

Furthermore, structural challenges such as poor infrastructure, limited access to technological devices, and insufficient technical support exacerbate these issues, illustrating a systemic barrier to adopting technology-enhanced teaching practices. This suggests that without addressing both the attitudes of educators and the logistical shortcomings within schools, efforts to integrate technology into teaching may remain largely ineffective. Enhancing professional development and ensuring that schools are equipped with the necessary resources are critical steps toward fostering a more technology-competent educational environment.

6. Recommendations

The study's research findings have led to the following recommendations being made:

- 1) Oromia Education Bureau advised to actively participate in the process of putting the use of technology policy into practice by providing ongoing reviews and evaluations, supervision, and both material and human support, in accordance with the study's recommendations.
- 2) Schools and Jimma Education Office need to be aware of the technological resources available for the teaching and learning process.

- 3) Teachers are encouraged to receive ongoing professional development on technology use in the classroom so they are prepared to instruct students in its use.
- 4) To ensure that teachers have the tools they need, Jimma Town Education Office should focus on providing ICT technicians for use in the classroom.

Abbreviations

ICT Information Communication Technology

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Chubakumzuk J., & Moameren, P. (2021). The role of information and communication technologies in improving teaching and learning processes in higher education: Bridging the gaps. *Research Review Journal*, 6. <https://doi.org/10.31305/rrjm.2021.v06.i04.0>
- [2] Drier, H. S. (2001). (2001a). Teaching and learning mathematics with interactive.
- [3] Education., U. D. (2016). Number and internet access of instructional computers and rooms.
- [4] Francis, J. (2017). The effects of technology on student motivation and engagement in classroom-based learning.
- [5] Hermans, R. T. (2008). The impact of primary school teachers'.
- [6] Hoffner, H. (2007). (2007). The elementary teacher's digital toolbox. Upper Saddle River.
- [7] Kim, S. and Bogale, G. (2015). Does satellite television programming satisfy Ethiopian secondary school students?', *Asia-Pacific Collaborative education Journal* Vol., 11(1), pp. 27–40.
- [8] König, J., Jäger-Biela, D. J. and Glutsch, N.. (2020A). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany', *European Journal of Teacher Education*, 43(4), pp.
- [9] Latchanna, G. a. (2012). 'Effectiveness of Plasma Television Integration in Teaching Secondary.
- [10] Mengistie, T. A. (2021). 'Higher Education Students' Learning in COVID-19 Pandemic Period: The Ethiopian Context', *Research in Globalization*.
- [11] Pozo, J. I. (2021). 'Teaching and Learning in Times of COVID-19: Uses of Digital Technologies During.
- [12] Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. *Journal of Applied and Advanced Research*, S33–S35.
- [13] Taimalu, M., & Luik, P. (2019). The impact of beliefs and knowledge on the integration of technology among teacher educators: A path analysis. *Teaching and Teacher Education*, 79, 101–110. <https://doi.org/10.1016/j.tate.2018.12.012>
- [14] Tondeur, J. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research*.
- [15] Tondeur, J. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research*.