https://kerjournal.com ISSN: 2710-0871

Kosovo Educational Research Journal

Volume 5, Issue2, 53-87.

ISSN: 2710-0871

https://kerjournal.com/

Principals' Practices in Technology Integration for a Quality School

Lulzim Drini[1*]

Abstract: This study investigates the successful practices of principals in primary and lower secondary schools regarding the integration of technology for a quality school of the 21st century, in the school institutions of the municipality of Prizren. This research study examines and describes the correlation between the current state of technology integration in schools, and addresses principal methods and strategies in successfully integrating technology for instructional purposes. Also, the research focuses on principals providing recommendations to supervisors and higher education institutions to strongly support good school practices in the implementation of technology in teaching and learning. The research method for this study includes a quantitative and qualitative approach. The research was conducted in the municipality of Prizren in the Republic of Kosovo and the respondents for this study were principals, teachers, and students of primary and secondary schools. For data collection, questionnaires were designed with closed questions, where the answers to the questions are evaluated with the Likert scale. In addition to questionnaires, observation with a checklist was used in data collection. In the end, interviews were conducted with principals, teachers, and school students. The results of this research show that this study proves our understanding of the importance of technology for a quality school and its impact on principals, teachers, and students. The conclusions and implications of this study have served to understand the role of the principal in facilitating and supporting strategies in the integration of technology for a quality school of the 21st century.

[1]Preschool Institute, Prizren, Kosovo

[*]Corresponding author: lulzimdrini@gmail.com

https://kerjournal.com ISSN: 2710-0871

Keywords: *Principal, teaching and learning, quality school, technology.*

To cite this article:Drini, L. **(2024) Principals' Practices in Technology Integration for a Quality School**. Kosovo Educational Research Journal, 5(2), 53-87.

Introduction

Today, school systems expect principals to serve not only as managers but also as leaders in instructional practices. This leadership is crucial for learning processes and essential for equipping modern students with the knowledge and skills needed to thrive in today's society and become productive citizens of the 21st century. Traditionally, principals were primarily managers, but the distinction between leader and manager is significant; a leader in a school crafts a vision for change and can effectively plan and implement that change.

Modern principals must embody both roles, understanding the importance of fostering a supportive school culture and guiding the change process. As leaders in the 21st century, principals must also play a key role in integrating technology, which is vital for helping teachers create optimal learning environments for students.

To prepare students to be competitive in an ever-evolving job market, it is crucial that school principals in the municipality of Prizren fully implement practices and processes that support the development and use of 21st-century technology skills in educational institutions. This 21st-century approach to teaching and learning applies constructive skills related to technology integration, problem-solving, and innovation.

This research primarily focuses on the pivotal role of principals in integrating technology to ensure quality education. Key responsibilities include: creating a vision and setting goals for technology integration in the school; supporting the use of technology within the school; participating in professional development activities centered on technology and its integration into student learning; providing professional development opportunities for teachers; and allocating resources to support the use of technology.

This research study aims to examine and describe the correlation between the current state of technology use and its integration in schools, as well as the leading methods and strategies for technology integration. It will explore leadership models that promote a shift in teaching pedagogy, using technology not just to support the existing curriculum but as a catalyst for change. The study will investigate how principals support the learning and teaching process and the successful strategies they

employ for technology integration. Additionally, it will assess the changes that occur in schools as a result of this leadership and integration of technology.

This research will examine the practices and behaviors of principals in several elementary and junior high schools regarding the implementation and development of technology resources in school facilities. It aims to gain insight into how principals can effectively support the adoption and development of 21st-century technology. Additionally, the study will assess the challenges principals face in implementing technology use and practices. Recommendations will be made to head office supervisors and higher education institutions on how best to support principals in integrating technology into schools. The findings from this research are crucial for school principals in enhancing their technology leadership to support local and state initiatives for technology integration, ultimately improving student achievement outcomes.

Technological integration in the schools of Prizren is supported by the Ministry of Education and the Municipal Directorate of Education where programs led by the government and NGOs aimed at integrating technology in education have been compiled, or if specific schools have adopted specific educational technologies. The existing infrastructure in Prizren schools has the availability of computers, internet access, some schools have interactive whiteboards or other digital tools.

However, there are differences between schools in rural and urban areas of Prizren, where the lack of technology cabinets is highlighted in rural areas. Also, there are gaps in the teacher's professional development. Educators are adequately trained to use and integrate technology effectively in their teaching, but there are some older teachers who have difficulty using technology. On the other hand, the Kosovo curriculum framework supports the effective use of technology, and there are no barriers to the inclusion of technology in lesson plans or educational activities.

The importance of this study clearly identifies these challenges, findings can inform targeted interventions and resource allocation to address the most pressing issues. Research may reveal successful strategies and best practices used in other regions or contexts that could be adapted to Prizren. Providing evidence-based recommendations for effective practices can help educators and policymakers implement proven approaches while increasing technology integration.

21st century skills refer to a set of competencies that are considered essential for success in today's increasingly complex and interconnected world. These skills go beyond traditional academic knowledge and include a range of skills necessary for students to thrive in modern workplaces and societies. The skills typically involved are critical thinking, creativity, collaboration, communication, digital literacy, problem solving and adaptability. These skills are intended to prepare students for future challenges and opportunities, fostering their ability to navigate and contribute effectively in a rapidly changing world.

Quality schools are educational institutions that effectively provide a high standard of education and create a positive learning environment conducive to student success. They are characterized by their

ability to meet and exceed educational standards and promote holistic development. Indicators of quality schools often include well-trained and motivated teachers, adequate resources and infrastructure, a rigorous and relevant curriculum, student-centered approaches to learning, strong leadership, and a positive school climate. The goal is to ensure that all students receive a meaningful and effective education that prepares them for academic, personal, and professional success.

Problem Identification

Our schools are not preparing students for this dynamic world. When we ask about preparing students for the 21st century, this means ensuring that students gain communication skills, problem-solving skills from everyday life, and reading comprehension to prepare themselves for a global market. The research will follow the connection of this leadership with the experiences of implementing methods and strategies of technology integration, as they relate to school reform efforts for its integration as a tool and a learning strategy. This paper explores principals' perceptions and their abilities to lead schools toward capacity-building reform in technology integration. Therefore, the practices of school principals should always be in support of the integration of technology in the learning processes, which is always being advanced. Principals are not ready to implement structural or programmatic changes in the context or work environments of teachers that are developed in an instructional manner.

Purpose of the Study

The purpose of this study is to investigate the practices of primary and lower secondary school principals in the municipality of Prizren, Republic of Kosovo, regarding the implementation and use of 21st-century technology to ensure quality education. Additionally, this research aims to examine and describe the correlation between the current state of technology integration in schools and the principals' methods and strategies for successfully integrating technology for instructional purposes. The problem that is researched is the perceptions of leaders capable of leading the school with the integration of technology with reforms towards a quality school. The research will follow the relationship of this leadership to staff development around technology use, leaders' current role in the system, and experiences implementing its integration methods and strategies as they relate to school reform efforts to integrate technology. as a tool and a teaching strategy of the 21st century. The final goal of this research is for principals to provide recommendations to supervisors, and institutions of higher education to strongly support good practices of schools, in the implementation of technology for quality education in the 21st century.

Research Questions

1. What are principals' practices for the successful integration of technology in schools?
2. What are the specific challenges faced by principals during their practices around the integration of technology in schools?

3. What are the attitudes of school principals in the municipality of Prizren to promote the integration of technology in teaching and learning for a quality education?

Research Hypotheses

Hypothesis 1: School principals in the municipality of Prizren have good practices, where their actions support the perceptions of teachers and students about the successful implementation of technology in schools.

Hypothesis 2: The principals of schools, in order to promote the integration of technology in the municipality of Prizren, have positive attitudes and that it affects the improvement of quality in schools.

Literature Review

The late 20th century saw the rise of constructivist influences in education and rapid advancements in technology, which had tentative implications for teaching and learning. Although we are well into the 21st century, terms like 21st-century learning, 21st-century skills, 21st-century literature, and 21st-century culture continue to coexist and are often used interchangeably in discussions about learning in the digital age (Brown, 2013). Recently, there has been talk about 21st-century schools, whose goal is to learn different strategies, that contribute to the advancement of students' learning, in a dynamic world (Mattheis et al., 2012). To act and learn effectively, children need to develop a variety of skills. Students enjoy understanding how things work and participating in hands-on activities. It appears that there is an increasing general acceptance of technological competence (Schwiebert, 2010). The knowledge, skills and abilities that must be developed by students to succeed in the 21st century require that the curriculum of Kosovo be enriched. Principals and teachers are at the center of the implementation of new curricula, especially through professional training of school-based staff (GIZ, 2013). According to Clark &Lyons (2004), the learning process involves two distinct types of memory: working memory and long-term memory. Working memory serves as the hub for active mental processing, including learning, where new information is initially stored. Visual and auditory inputs are assimilated to construct a coherent concept. This concept is then integrated with existing knowledge stored in long-term memory (Clark & Lyons, 2004). The authors also criticize outdated educational approaches where students, living in the 21st century, are still learning in 20th-century environments (Jacobsen, 2010). Dewey said that, "Education is not only preparation for life, but education is life itself (Thomas, 2005). Researchers say "there is a need for a transformation in pedagogy, in other words, there is a need to design engaged, authentic, complex, and discipline-based learning that results in deep learning experiences with action-oriented goals. and to meet the needs of today's students" (Lee et al., 2013). The article of Hattie & Yates (2021) discusses the importance of professional development in helping teachers effectively integrate technology into their teaching. It provides recommendations for designing and implementing successful training programs (Hattie & Yates, 2021).

Integrating technology according to Woodbridge (2004), means technology is a learning tool, using it in an integrative model that presents a learning strategy and is a tool for delivering content to students (Woodbridge, 2004). Skills necessary for 21st-century learning emphasize competencies such as critical thinking, problem-solving, communication effectiveness, collaboration, creativity, and innovation (Yemothy, 2015). Today's students are preparing for a technology-rich future that requires 21st-century learning skills (Newbill & Baum, 2013). Fullan (2006) states that the possibility of change in weak schools or schools facing challenging conditions depends on the leadership styles applied by school leaders to strengthen partnerships with the school community (Fullan, 2006). Leaders must engage in building the capacity of teachers and their leadership skills, they must consider parents and the school community as part of the solution, not the problem. Hence, it is suggested that educational institutions implement a unified electronic system across all schools to facilitate integration with third-party partners. According to the study's results, respondents affirmed that this system was effective and enhanced the management of school documentation processes (Orhani et al., 2023). The paper of Darling-Hammond et al. (2021) the relationship between technology integration and educational quality, offering evidence on how technology can enhance student outcomes and overall school performance (Darling-Hammond et al., 2021).

Polizzi (2011) highlights five stages that can be distinguished within the innovation decision-making process at the individual level: (1) knowledge of the innovation; (2) attitude towards innovation; (3) the decision to approve or reject innovations; (4) implementation of the innovation and (5) confirmation of use (Polizzi, 2011). Shortly before the end of his administration, President Clinton approved the second national technology plan, this time to evaluate the effectiveness of its use initiatives (Trotter, 2007). Principals' principles are to develop a vision and use it to develop a supportive learning community. The school as an environment is primarily a combination of the school's vision, staff, and resources (Machado & Chung, 2015). According to May's (2003) research, principals aged between 31 and 40, with 6 to 10 years of experience, reported that technology enhanced their effectiveness as leaders. The study measured this by assessing whether specific technologies, such as email, Word processing, and Internet access, contributed to their capabilities as principals. Conversely, directors over the age of 51 and with more than 11 years of experience perceived technology as having less influence on their effectiveness (May, 2003). Fusarelli (2008) found that principals need training in the principles of applied research, strategic planning, and evaluation to use student and school data (Fusarelli, 2008). In a report published by the Partnership for 21st Century Skills entitled “21st Century Knowledge and Skills” in Teacher Preparation, Greenhill (2010) proposes that teachers can enhance learning for all students by integrating technology to support academic content, implementing standards-based instruction, employing diverse teaching approaches, providing social mentoring, and adapting student assessment strategies (Greenhill, 2010).

Studies on principals' implementation of technology indicate that the effectiveness of school quality improvement initiatives is frequently shaped by the actions of the principal. Rogers (2007) found that the positive perceptions of principals during the implementation of the project "Lead the Way Curriculum" technology has positively influenced the enthusiasm and motivation of students to learn (Rogers, 2007). Student motivation is a constant problem in our schools and although the principal may not have clear solutions, there may be some strategies to help teachers. Motivation is generally defined as an internal condition that initiates behaviour, arouses interests, and creates the desire to achieve a goal. Teachers are always looking to see what motivates their students. Motivation is the key to successful student achievement as well as fostering lifelong learning. Reluctance to learn must be transformed into a desire to learn. Integrating technology can be a useful motivator for any student. Technology has positive effects on student motivation. Since students are responding positively to and being motivated by technology, principals must make a conscious effort to create conditions, with the opportunities available to them.

In Waterman's (2009) study on principals' utilization of technology, it was found that school leaders considered it crucial to incorporate technology into both short-term and long-term goals outlined in the school's development plan to enhance the quality of education (Waterman, 2009). School principals must not only be informed about technology but must also make decisions about the use of technology in their schools. Many schools have principals who are knowledgeable in the use of technology, but they are failing to effectively integrate technology. When school principals make it clear that technology is important, their subordinates are much more likely to pay attention to how technology can improve teaching and learning.

Pasquerilla (2008) investigated the impact of technology use by principals and that technology is a tool for performing their daily tasks and accessing student data (Pasquerilla, 2008). The use of technology is increasing day by day, we all depend on technology and are using technology to perform specific tasks while working. Today we have various technologies in development, which affect our lives in different ways. Technology is being implemented in almost every aspect of our lives even during school leadership and management.

The review of Ertmer & Ottenbreit-Leftwich (2022), discusses various strategies for integrating technology in K-12 education, including leadership practices, professional development, and curriculum integration. It provides insights into successful approaches and common challenges (Ertmer & Ottenbreit-Leftwich, 2022).

Leithwood &Riehl (2003) outlined five conclusions regarding school leadership practices. The primary conclusion emphasized that school leadership exerts the greatest influence on student learning outcomes, following the impacts of teaching quality and curriculum effectiveness. The second conclusion was that different leadership styles enabled principals to identify transformational, learning, moral, and

participative models of leadership. Thirdly, effective leadership practices in schools involve setting clear directions and providing professional development opportunities for teachers. Fourthly, school leaders must establish a framework of practices that meet various accountability measures. And finally, they identified the importance of school leaders taking proactive measures to support the education of diverse groups of students (Leithwood & Riehl, 2003). Given the essential role of the curriculum in achieving quality learning and given the essential role that determines to a large extent whether education is inclusive, it therefore has an important role in ensuring that provision is equal. Schools must provide exemplary leadership to students. Good leadership can positively influence school culture, which fosters a sense of professional community, rooted in the shared norms, values, beliefs, and assumptions of school staff, which contribute to a significant positive impact on the quality of teaching and learning. The professional development of teachers includes a very wide range of topics, where they will expand their knowledge in the field of teaching subjects, training for specialized teaching techniques, learning new technological skills, conducting research, and obtaining certificates. The school principal must account for the school's financial resources and make it clear how the resources will be used for student success. To do this, the director can show the allocation of resources in the school and how many funds are allocated by the municipal directorate. Principals must analyze the levels of students during learning, which are represented in each heterogeneous group, where they must create environments for each type of talent displayed by their students.

Principals also reported the convenience of having a Student Information System that allows them to contact parents about academic concerns they have about students. A major advantage of such a system is the principal's ability to respond to parents' concerns more quickly, rather than putting callers on hold while they track down information. In addition, principals reported that they were able to have more access to their colleagues outside their school to understand current issues and problems, where technology had helped school personnel to collaborate more efficiently (Haughey, 2006). Principals play a crucial role in aligning technology with instructional practices. They are responsible not only for facilitating ongoing collaboration with teachers regarding technology integration but also for ensuring it is a focus during professional development sessions. Recent studies have indicated that when principals provide this type of leadership and prioritize staff development in technology integration, positive outcomes are observed.

Staples, Pagach & Himes (2005), in their case study of three urban elementary schools, discovered that integrating technology more closely with the curriculum reduces barriers to its adoption (Staples et al., 2005). Directors cannot create a cohesive plan. In addition, many teachers mistakenly believe that any technology is good technology. This means that, sometimes, the introduction of technology can be a barrier in itself. In other words, the free use of technology can be a hindrance and can be a barrier to student achievement.

The research of the authors Zhao & Frank. (2023) shows that this article explores how transformative leadership practices can support effective technology integration in schools. It emphasizes the role of principals in facilitating change and creating a technology-rich learning environment (Zhao & Frank, 2023).

Students cannot derive benefits from technology unless their teachers possess adequate knowledge and proficiency in its use (Johnston, 2012). While educators acknowledge the potential instructional advantages of digital resources and technology, many seek guidance on effectively and meaningfully incorporating suitable technology into teaching and learning. Through leadership initiatives, educators can serve as catalysts for change by supporting, encouraging, assisting, and facilitating the integration of technologies into daily educational practices. Principals, drawing on their experiences with new technologies, can play a crucial role in helping teachers recognize the significance of integrating information technologies into the curriculum and designing relevant learning opportunities for students.

Both principals and teachers lack a clear and strong understanding of how technology integration relates to leadership roles. They are unaware of how technology can facilitate meaningful learning and foster critical thinking effectively (Malik, 2015). Teachers are currently utilizing technology based on their individual skills and capabilities, often without formal training. The approach to integrating technology lacks organization and a specific strategy. There is a need for a structured plan involving the principal to enhance the incorporation of technology into pedagogical practices, engaging all stakeholders in the process.

The systematic review of McLeod & Shepherd (2023) focuses on the principal's role in leading technology integration efforts, highlighting effective practices and leadership strategies that contribute to successful technology implementation (McLeod & Shepherd, 2023). Best practices in technology integration emphasize that an optimal learning environment involves actively engaged student learning and authentic performance assessments using various methods of expression (Kozloski, 2006). Principals can achieve success in effectively implementing information technology in schools by actively advocating for it, offering relevant professional development, and supporting their staff through the change process. Leadership is crucial in driving successful school reform. While principals historically focused on managing information and resources, today they are expected to oversee daily school operations while prioritizing student learning, improving school standards, making data-driven decisions, and leading efforts to restructure educational practices.

One of the successful practices that should be implemented in the school is the integration of technology TSSA Collaborative (2010) shows what the principal should do (TSSA, 2010). The school should organize a series of professional development sessions that cover both familiar and new technologies. They should select technology tools that can be easily integrated into teaching and learning across all grade levels. Whenever possible, teachers should demonstrate these technologies to their colleagues.

The focus should be on practical experiences within specific fields, subjects, or interdisciplinary teams, showcasing how technology applies to specific lessons or activities. Providing examples of student work using technology in various classroom tasks can also be helpful. Recording meetings allows teachers to review them later, and shifting from a demonstration-based approach to an iterative one can enhance learning. Additionally, inviting different teachers to showcase technology usage helps all educators become leaders in its adoption. These strategies aim to reduce resistance to technology and promote ongoing skill development among teachers. It's also important to recognize and highlight teachers who successfully integrate technology in the school.

Research across various educational studies consistently indicates that principals in schools where technology is integrated have a more favorable attitude toward its impact on education compared to principals in schools where technology is not utilized (Baylor & Ritchie, 2002). Additionally, they observed that principals who actively endorse their teachers and foster a collaborative school culture facilitate effective technological innovation. It is also acknowledged that principals who possess leadership skills to initiate and address the educational challenges posed by technological advancements in teaching and learning can impact the use of technology positively, leading to improved learning outcomes in schools. Promoting technology integration in classrooms, devising a strategic plan, articulating a clear vision, and recognizing teachers who strive to incorporate technology and share leadership responsibilities are recognized as significant factors that influence teachers' practices.

As previously mentioned, technology can engage students in the 21st-century curriculum. Unfortunately, if principals do not appreciate its usefulness and model, it in their daily practices, the possibility of its integration may be limited it falls the youth of Kosovo are incorporating technology into their daily lives on a large scale. If we are not able to capture that learning tool, then we are not meeting the needs of the quality schools of the 21st century. The literature review indicated that more research is needed on this topic. This research, focusing on principals' best practices toward school technology integration, will provide valuable data to determine how close we are to meeting the promise of technology integration.

Methodology

Research Design

The research method for this study includes a quantitative and qualitative approach that incorporates a mixed approach. This research flow was used because it best supports the study of the population and allows for effective data collection. The mixed methods approach enabled analysis of the extent to which principals implemented practices that support their role as leaders in technology integration and how they have adapted to the implementation and integration of new technology in their schools. The quantitative approach was used to compare the previous experiences and attitudes of teachers and students during technology integration. This approach is used to provide principals with the tools

necessary to anticipate the appropriate level of technology background while supporting a higher level of technology integration for a quality education. The qualitative approach emphasizes content analysis of school principals' practices integrating technology for a quality 21st-century school, which allows patterns or themes to emerge from the data collected without specifying prerequisites. The purpose of the qualitative research for this study was to create results that are understandable and reliable, enabling them to help improve existing practices.

Sample

The research was conducted in the municipality of Prizren and the participants for this study are the principals, teachers, and students of primary and lower secondary schools in the municipality of Prizren in the Republic of Kosovo, representing the population. The population of principals in the municipality of Prizren is 51, the population of teachers working in lower secondary schools is 1867 and the population of students from grades VI-IX is 10244. While only 5 public schools will be selected as a sample, which of them are 3 urban and 2 rural schools in the municipality of Prizren. The selection of the sample will be purposive, where the reason for the selection of the purposive sample is the aspect of the practical experiences of some principals and the technological tools that the schools have. The research sample is represented by 5 directors, 78 teachers, and 117 students of primary and lower secondary schools in the municipality of Prizren in the Republic of Kosovo.

Data Collection

In this part of the paper, we will reflect on the procedure followed for the compilation of notes in schools using questionnaires, observation lists, and interviews. Descriptive field notes represent research efforts to objectively reflect the details of what happens in the school, and in our case how technology is integrated in the school. The design of the requirements for questionnaires, checklists, and interviews was mainly based on the research questions and hypotheses, thus fully complying with the final goal of the topic, that of clearly and realistically reflecting the practices of principals in the integration of technology for a quality school of the 21st century. The time period that the data was collected is the 2021/2022 school year. The questionnaires were personally administered by me and the interviews were conducted face to face. For the collection of data, structured questionnaires were designed that were compiled with closed questions, where the answers to the questions will be measured with the Likert scale. In addition to questionnaires, observation with a checklist was used in data collection, which served to investigate the state of schools where technology is integrated. In the end, interviews were conducted with school principals who will narrate their practices regarding the integration of technology for a quality school of the 21st century, as well as interviews with teachers and students who will show the role of technology integration in teaching and learning. where the director's support in facilitating and supporting this process will be taken into account. Before the collection of data from the measuring instruments of the research, the permission and consent of the director of the Municipal Directorate of

Education in Prizren was requested, and after receiving his authorization, the research was carried out in the respective schools. In addition to the permission of the director of the DKA, permission was also requested from the principals of the schools to carry out the research with the teachers and students of that school. With the authorization of the school principals, the research instruments were distributed to teachers and students.

Analyzing of Data

Quantitative data in this study have been used to generalize findings about the overall use of technology, while qualitative data have generalized insights gleaned from specific cases of surveyed principals' practices. The first phase involved collecting quantitative data through structured questionnaires distributed to all principals across five school districts. Following this, the second phase employed a mixed methods approach, incorporating qualitative data collected via interviews, observation notes, and documents provided by participants in five selected schools. These qualitative inputs were used to complement and enrich the quantitative findings from the first phase. Data were categorized descriptively and analyzed for emerging themes, with subsequent iterations refining the analysis through alignment of participants' responses with identified categories and themes. This iterative process facilitated a comprehensive exploration and synthesis of data, ultimately serving to address research questions and validate hypotheses. Analysis was conducted using Microsoft Excel, and the study's findings will conclude with recommendations aimed at enhancing technology integration in educational institutions to improve overall school quality. Descriptive statistics were used for the quantitative data and the answers were drawn according to the Likert scale.

Qualitative data collected from questionnaires and interviews of principals, teachers and students, and from the observation list, were to examine how leadership through technology contributes to the development of a quality 21st century school. This approach involves an interpretative and holistic perspective on the subject matter, thus broadening the relevance and applicability of this research to other principals. Qualitative descriptive data aim to add depth, detail, and nuanced understanding to the findings of qualitative research. These data will contribute to answering research questions and validating hypotheses. Through content analysis and data coding, the study identified school principals' experiences, attitudes, and the role of school leadership in integrating technology. The process of qualitative data analysis was done through content analysis, coding and categorization. Where the reliability of the qualitative findings was through questions posed to teachers and students. From these results we were able to draw conclusions about the similarity of the answers from the directors. Qualitative findings were categorized based on positive, neutral, and negative attitudes towards technology integration.

Findings/Results

Statistical Analysis of Principals' Results from Questionnaires

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The representation of the responsible principals in the research was carefully selected in the most equal gender selection, where 3 principals and 2 principals were selected from a total of 5 schools. From the data collected from the questionnaires and interviews, two principals and two principals have positive attitudes towards the integration of technology in the school, while only one principal has neutral attitudes, and none of the respondents have negative attitudes about the integration of technology in the school. The results of this research show that the principals' perceptions of the integration of technology in the school, even according to gender, see technology as important in teaching and learning. Analysis of the demographic data collected from the results identified a mean age of 49 years. Where up to 40 years we have not had any principals, from 40-50 years old we have had two principals, the second of whom has resulted in positive attitudes towards the integration of technology in the school, from 51-60 years old we have also had three principals, of which two had positive attitudes about the integration of technology, while one had a neutral attitude about its integration in the school. Directors see the importance of using technology for data sharing and management as a resource for administrative work. This shows that the principals have a positive approach to the integration of technology in the school and are using the technology themselves. In this way, directors, despite their age, are becoming leaders in the use of technology, whether they realize it or not. Also, the principals stated that the role of educational technology will be more effective if sufficient technological equipment is provided in schools. To analyze the impact of work experience on the successful integration of technology in the school, from the analysis of questionnaires and interviews we obtained these results. The work experience of the directors varied from 2 years to 15 years. Most of the principals with less work experience had more positive responses about the integration of technology in the school, but one of the principals with eight years of work had a neutral attitude toward the integration of technology in the school. This can influence the leadership that principals when implementing technology in their schools result in positive implications and major preparation programs that consider addressing leadership with technology to be better prepared to implement effective technology in their schools. This can increase the motivation of those newly elected principals and lead to better implementation of technology in the school.

Table 1. Principals' Results from the Questionnaires - Section Two

No.	***Question***	***yes***	***no***
1	**Do you use technology for tasks related to school management (budget, planning, meetings, etc.)?**	5	0
2	**Do you communicate via the Internet with teachers (email, announcements on the website, etc.)?**	4	1

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3	**Do you communicate via the Internet with your parents?**	3	2
4	**Do you use technological networks (including social networks) to support leadership and/or professional development?**	5	0
5	**Do you use social media to disseminate information about your school?**	3	2
6	**Does your school have a medium-term plan for innovation?**	5	0
7	**Does your school have an action plan for teachers in professional development for technology?**	5	0
8	**Does your school have funding to support teachers in professional development for technology?**	1	4
9	**Does your school review its technology plan at least once a year?**	5	0
10	**Does your school have a comprehensive plan for installing and updating software?**	1	4
11	**Do you know the potential of new technologies and their meaningful implementation?**	3	2
12	**Do you think staff are responding favorably to improving teaching and learning by integrating technology?**	5	0
13	**Does the age of teachers affect the use of advanced technology?**	4	1
14	**Do you think technology saves time and increases productivity?**	5	0
15	**Do you think you are a more successful director if you use technology?**	4	1

The results from the research and the responses of the principals from the second section have been important to know that the use of technology affects the tasks related to school management. The question "Do you use technology for tasks related to school management (budget, planning, meetings, etc.)?" to which the respondents answered that everyone uses technology. This is a good indicator to let

us understand that the use of technology saves time and increases productivity. However, only three out of five directors recognize the potential of new technologies and their meaningful implementation. We can see from the results that only some principals claim that they use the Internet and social networks to communicate with teachers, students, and parents. Communication is usually the key to any problem we encounter in schools and so these results are always something that is being sought to do a better job. But, as can be seen from the results, the directors use email more for the distribution of information. Likewise, one participant shared a challenge about not using the Internet to facilitate communication. In general, participants describe that schools are at an early stage of using technologies for communication between teachers, students, and parents.

Professional development opportunities were frequently characterized as occasions for collaboration, learning about new technologies, and customizing teacher knowledge. According to the findings in the Table, a significant majority of principals reported having a structured action plan in place for teachers' professional development in technology. One shortcoming we notice is that only one principal allocates funds, while four others do not allocate funds to support teachers in professional development for technology. However, one advantage that this research shows is that all principals claim that the school has a medium-term plan for innovation and reviews the technology plan at least once every year. Also, all principals feel that staff are responding favorably to improving teaching and learning by integrating technology. The assessment standards emphasize the need for leaders to engage in an ongoing assessment of technology use in the school. From the responses of the principals to the question of how much they observe teachers during the learning process in the integration of technology, we see that principals sometimes do a continuous assessment, which is necessary to assess the lack of knowledge for the successful use of technology by teachers. And finally, we can say that the results are proving that about 80% of the principals affirm that technology should be integrated for successful school leadership.

A descriptive analysis was conducted for each section, where the results for this section were used to identify the overall level of technology integration in schools. The descriptive results of the second section are presented in the following table:

Table 2. Statistical Analysis of Principals' Results From Questionnaires - Section 2

Description	**yes**	**no**
Average	3.87	1.13
Mode	5	0
Median	4	1
Standard Deviation	1.41	1.41
Kurtosis	0.38	0.38
Skewness	-1.15	1.15

Correlation	1	-1

From the table above, we notice a favouring of principals' practices in the integration of technology in the school with an average of 3.87, while with an average of 1.13, it is against principals who think that technology does not affect the teaching and learning process. Also, we notice that the mode is 5 which is the value set that appeared most often for its use. The median for the use of technology by directors is 4 to 1, which shows that this indicator is important and should serve as a reason for the orientation of its integration.

The results from the statistics of Kurtosis values are 0.38, which is between -3 and 3, where they show that there are no extreme values and that the distribution is normal. Whereas, the statistical results from Skewness are -1.15, i.e. they are negative, for the statements of the directors in the use of technology, while 1.15 states that the use of technology does not affect the quality of the school. This shows that we have a distribution that skews to the left, so we say that principals have successful practices in using technology for a quality school. The correlation, which ranges from -1 to 1, signifies that the relationship between technology integration and teaching and learning can be described by a linear equation. This suggests that many schools are actively utilizing technology.

Descriptive analysis for the principal's role in the technology integration section, where the results for this section were used to look at the impact of the principal's leadership role on its integration in the school. The descriptive results of the third section are presented in the following table:

Table 3. Descriptive Analysis of Principals' Results from Questionnaires - Section 3

Description	Always	Frequently	Ever	Rarely	Never
Average	2.15	1.70	0.95	0.15	0.05
Standard error	0.34	0.20	0.18	0.07	0.17
Mode	1	2	0	0	0
Median	2	2	1	0	0
Standard Deviation	1.49	0.88	0.81	0.32	0.73
Kurtosis	-1.01	-0.25	-1.41	6.51	13.89
Skewness	0.37	-0.36	0.20	2.79	3.66
Correlation	1	-0.65	-0.75	-0.22	-0.34
Percent	43.00	34.00	19.00	3.00	1.00

Referring to the results from the above, it can be seen that the average is 2.15 always, 1.70 often, 0.95 sometimes, 0.15 rarely, and 0.05 never, which indicates satisfactory results and that the improvement of

areas is intended, including the role of the director of technology integration, the report general director-teacher, technology support, and student motivation. The standard deviation results are 1.49 for always and 0.88 for often, where this indicates that the density of principals' practices in technology integration shifts towards the answers, always and often use technology. A standard deviation of 0.88 in principals' responses indicates that there is enough variation to earn higher scores for a quality school. The results from the statistics of Kurtosis values are between -3 and 3 for positive attitudes, where they show that there are no extreme values and that the distribution is normal, while over 6.51 are for negative attitudes that show the extreme value and that the distribution is not normal. Whereas, the correlation results are between the interval -1 and 1, which indicates that a linear equation describes the relationship between the director's role and technology integration. Also, to verify the strength of the relationship between the variables of the principal's role and the integration of technology in the school, the values obtained from the descriptive results of Table 4 were used, resulting in 43% of principals always and 34% of principals often having positive attitudes about by making technology a part of education.

Teachers' Results from the Questionnaires

Teachers' results from the questionnaires - Section 2: Integrating technology into teaching are presented in the table below:

Table 4. Teachers' Results from Questionnaires - Section 2

Section 2	yes	no
Teachers integrate technology into teaching	79.1%	20.9%

Present the results obtained from the table, from which they result a percentage of about 79.1% those teachers use technology in the learning process, while a small percentage of 20.9% do not use it. This shows that they are replacing the traditional method when explaining the lesson and giving information. Also, successful integration of technology is occurring across the curriculum to meet the curriculum competencies for technology, and the results are showing the deepening and enhancement of the learning process through technology. Teacher results from the questionnaires - Section 3: Principal's collaboration with teachers in technology integration are presented in the table below:

Table 5. Teachers' Results from Questionnaires - Section 3

Section 3	Always	Frequently	Ever	Rarely	Never
The principal collaborates with teachers in the	18.55%	31.28%	23.85%	18.29%	8.03%

integration of technology		

To verify if there is a relationship between the principal's cooperation with teachers in technology integration, we can refer to the results from Table. The results show that 18.55% of principals always cooperate with teachers in technology integration, 31.28% of principals cooperate often, 23.85% of principals sometimes collaborate, 18.29% of principals rarely collaborate, and a small percentage of teachers 8.03% state that principals never collaborate with teachers on technology integration. The findings indicate a weak correlation with collaboration, which is essential for effectively integrating technology in the classroom. A thorough examination of current research highlights a notable gap in this particular area. Teachers' results from the questionnaires - Section 4: Use of technology in learning are presented in the table below:

Table 6. Teachers' Results from Questionnaires - Section 4

Section 4	yes	no
The use of technology in learning	75.04%	24.96%

Based on the results of the questionnaires from section 4, we see the impact of technology on learning resulting in 75.04%, where teachers affirming the impact of technology on the motivation and interest of students in lessons, while 24.96% think that technology hurts learning. This proves that the research highlighted that the use of technology in the learning process contributes to the development of student's knowledge.

Students' Results from Questionnaires

Student results from the questionnaires - Section 2: Use of technology in learning are presented in the table below:

Table 7. Students' Results from Questionnaires - Section 2

Section 2	yes	no
Students use technology to learn	64.22%	35.78%

To present the differences between the students' use of technology for learning and the infrastructure of technology equipment, the results of the questionnaires from section 2 were used to rank the data according to the levels that 64.22% of the students claimed to use technology for learning and the school has conditions for the development of learning with technology, while 35.78% denied this. In one of the students' answers, it should be noted that the use of technology affects the increase in results, 107

students affirmed, while only 10 of them denied this. This tells us that current and future principals must prepare to become leaders for 21st-century schools.

Student results from the questionnaires - Section 3: Technology Integration are presented in the table below:

Table 8. Students' Results from Questionnaires - Section 3

Section 3	Always	Frequently	Ever	Rarely	Never
Students integrate technology at school and home for learning purposes	16.18%	24.11%	22.56%	25.24%	11.91%

To calculate the size of the effect that students integrate technology for learning purposes, we based on the results of the table which shows that 16.18% of students always integrate technology at school and home for learning purposes, 24.11% integrate it often, 22.56 % ever integrate, 25.24% rarely integrate and 11.91% do not integrate technology. This gives us to understand that it is a satisfactory result, because every time it is not even necessary that the teaching content be developed with technology. Also, an important fact that was noticed in the students' responses was that 82 students declared that they use technology for communication. This model facilitates student-teacher connectivity through sharing professional content, resources, and systems aimed at enhancing learning and personalizing educational experiences. Online communication holds promise for boosting educational efficiency by accelerating learning rates and utilizing learning opportunities beyond traditional school hours. Moreover, students' proficiency in essential technology skills has shown a positive correlation with teachers' capacity to integrate technology and their methods for fostering critical thinking.

Statistical Analysis of the Results from the Observation List

Table 9. Results from the Watch List

No.	Request	Motrat Qiriazi	Mustafa Bakiu	Abdyl Frashëri	Heronjtë e Lumës	Mushnikova
1	**Computer cabinet**	NO	YES	YES	YES	YES
2	**Computers in the cabinet**	NO	15	25	1	25
3	**Computers in the classroom**	NO	NO	YES	NO	NO
4	**Laptop for teachers**	32	5	YES	6	NO

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5	**Cabinet projectors**	NO	1	YES	1	1
6	**Projectors in the classroom**	16	25	YES	NO	NO
7	**Internet in the cabinet**	NO	YES	YES	YES	YES
8	**Internet in the classroom**	NO	PARTIALLY	NO	NO	NO
9	**Wireless at school**	YES	YES	YES	YES	YES
10	**Printer for teachers**	YES	YES	YES	YES	YES
11	**Digital camera**	YES	NO	YES	NO	NO
12	**Smart boards in the cabinet**	NO	NO	NO	NO	NO
13	**Smart boards in the classroom**	NO	NO	NO	NO	NO
14	**Tablet for teachers**	YES	NO	20	NO	NO
15	**Tablet for students**	YES	NO	NO	NO	NO
16	**The ratio of teachers compared to computers**	2:1	2:2	2:1	2:1	1:1
17	**How many of the teachers use the computer?**	50%	50%	60%	70%	70%
18	**The ratio of students compared to computers**	23:1	15:1	21:1	13:1	4:1
19	**Does your school have a technology coordinator?**	YES	YES	YES	NO	YES
20	**Does your school have a website/social media page?**	NO	NO	YES	NO	NO

21	**nx information management system?**	YES	NO	YES	YES	YES
22	**Does your school have an e-library?**	NO	NO	NO	NO	NO
23	**Does your school offer e-learning?**	NO	NO	NO	NO	NO

In numerous schools, the principal sets up technology infrastructure for students; nevertheless, despite technological advancements, implementation remains a significant hurdle. Schools and principals nationwide grapple with adapting to the evolving role of teachers, finding a balance between flexible, personalized educational models and current demands. Moreover, they face a cultural challenge in shifting entrenched teaching practices. Despite the massive investments that many school systems are making, the evidence in this research from the watch list is that they are not giving enough importance to equipping schools with technology. In the researched schools, there is a lag in supplying students with technology, where from the results of table 10 we are noticing that our schools have a lack of computers in the cabinets, as well as in the classrooms, lack of access to the Internet, smart boards, tablets for teachers only two schools out of a total of 5 have and tablets for students only one school has with a small number of them.

More and more, contemporary schools are moving to provide students with a personal computer, laptop, or tablet. Meanwhile, the results of Table 10 show an unsatisfactory ratio of students compared to computers, where the ratio starts from 4 to 1 and goes up to 23 with 1 computer for every student. However, the ratio of teachers compared to computers is something better, where this ratio is almost 2 to 1 computer for every teacher. From the observation list it is shown that in two schools half of the teachers use technology, one school about 60%, while in the other two schools, they use a larger percentage about 70%. Something important that is being observed from the watch list is that the schools have digital cameras and printers for teachers. Four schools have a website / social networking site and an ICT coordinator, while one does not, however, the schools have a student information management system. The potential of technology in schools' hinges largely on infrastructure, yet many schools still lack electronic libraries and do not provide internet-based distance learning.

In general, the expectation is that equipping students with technological devices will aid in achieving various goals, such as empowering students to engage in more intricate and creative tasks through the use of applications, digital tools, and the Internet.

Principals' Results from Interviews

The second data collection method that was used in this research to explore principals' practices in successfully integrating technology for a quality school is an in-depth interview process. The results from this type of summative data serve the purpose of providing insights and examples of successful strategies and tools used to implement technology integration at the leadership level. We present some of the findings of this research for each school separately.

#1. The principal of the "Motrat Qiriazi" School - Prizren

According to the findings from the interview during his 8-year career as a school director, he has a neutral attitude about the aspects of technology integration in the school. However, he has completed ECDL training and uses a computer and laptop regularly. The director says that the teachers are trained in the use of technology and that the support of the teachers for professional development and training in the field of technology has been according to the needs of the teachers' requests. However, he thinks that technology is useful in learning and has a positive effect on student achievement. As for the role of facilitating, supporting, and leading innovation to improve teaching and learning by integrating technology, he says he has maximum support. Although the principal's expertise in technology was limited, he saw the value of technology and felt that the use of technology by teachers should be promoted. He mentioned several cases of teachers he has observed who integrate technology through various strategies in their classroom activities and are surprised at how engaged the students are in the lessons.

#2. The Principal of the School "Mustafa Bakiu" - Prizren

After analyzing the interview of the school principal, with a 2-year work experience, it was found that the principal has successful practices in the integration of technology in the school. This can also be proven by the demography of the school, which was a priority for the integration of technology. Additionally, during the principal's interview, she stated that she considered herself a technology leader in her school. She stated that she has completed ECDL training and that she uses her computer, laptop, smartphone, and projector. It shows that most teachers have completed ECDL training and can use it in the teaching process. She says that technology in our school is used to communicate with other institutions, whereas email communication is used to collaborate with the community. When asked what obstacles you have in the integration of technology in your school, she reasoned that the obstacle is the age of the teachers, but she never mentioned their expectations. Instead, she only talked about how she led her school by modeling the use of technology in meetings. But, she mentioned, that to facilitate the integration of technology, she uses motivation and consultation, as a positive influence in the advancement of teaching and learning. Another issue that highlights the different perceptions of the principal is that she has a vision for technology in general and that her priority is that in addition to the classrooms that are supplied with projectors, she now intends to equip each classroom with a laptop. Finally, from her perspective, it is emphasized that the issue was in a vision of how technology can be

used to help students succeed and good practice in the integration of technology, where she refers to the engagement of students in the learning process.

#3. The Principal of the School "Abdyl Frashëri" - Prizren

Findings from the interview with the one-term principal in the role of school manager indicated that she has a positive attitude toward technology integration and would like to see technology used more widely in her school. She has completed 7 ECDL training modules and for her profession, as a leader, she uses a computer, laptop, and tablet. She claims that technology in her school is used in administrative work, communication, teaching, presentations, publications, etc. The director stated that all the teachers are trained and that they use it during the lessons in the presentation of the teaching units. In other words, the school principal uses methods and strategies to facilitate the integration of technology in the school by monitoring and collaborating with the Student Council, the Teacher Council, and the community in general. As the director of the school has commented, they have no obstacles in the integration of technology, because the school has been implementing the curriculum for 5 years and the technological competencies are fully fulfilled. The director also describes her role in improving teaching and learning by looking at the needs and demands of the 21st century, supporting morals, and in the development and professional training based on the school. She thinks that technology does not have a negative impact, and she explains the positive impact on the overall success of students, especially the success in the achievement test. In the end, she showed the goals for the future regarding the integration of technology in the school, which envisages that the school should be equipped with the most advanced technology such as smart boards, always adapting to the times and demands of the 21st century.

#4. The Principal of the School "Heronjtë e Lumës" - Vermica / Prizren

From the interview, it was observed that the school principal with initial experience in school leadership has a positive attitude towards the integration of new technology for a quality school. This is justified in the expectation that he feels that he has a big role in using technology in the school as effectively as possible. The director describes the ECDL training and the KTA program in the mathematics-informatics direction, which has benefited from the knowledge in the technology direction, and therefore now has excellent skills in its practical application in administrative management work. Also, he has understood the role of technology that has a positive impact and he is always supportive of teachers' professional development initiatives in the field of technology and offers assistance by submitting training requests to DKA in this field. As the school principal has commented, I would like us to have every kind of opportunity in our school, but, unfortunately, the infrastructure for the integration of technology is missing. However, teachers encourage students to use technology in their projects but note that the advanced age of teachers is affecting their training in the use of technology. The director reflects

on his experience by emphasizing continuous collaboration with teachers and students in cultivating and improving the learning process by integrating technology, where he thinks there are high values in learning through technology because students are advanced in the use of technology and are prepared for the global market of work. Given the importance of curriculum implementation in the realization of ICT competencies, the principal measures the progress of digital competencies in collaboration with technology teachers and describes the school's current innovation/project that is being assisted by technology, where the school's internal assessment is being carried out for the five areas of quality.

#5. The Principal of the School "Mushnikova" - Mushnikovë / Prizren

The school is located in a rural district with a consolidated school district with a small number of teachers and students and a poor infrastructure. Therefore, the interview with the director of this school with great experience in management and leadership of this school for about 15 years, emphasizes the perceptions he has about the integration of technology in the school. Like all the other directors chosen for this research, this one has completed ECDL training and uses a computer, laptop, and projector. The director indicates that not all teachers are trained in the use of technology and that we are being forced to send them to training by providing technological equipment. The director says that technology has value in raising the quality of teaching and learning, he also emphasizes that it has a positive impact because we can access information more easily. One of the obstacles that the director emphasizes in the integration of technology in the school is the lack of budget. Whereas, the principal's priorities were to create the best possible educational environment that prepares students to become computer-literate learners and productive citizens through a diverse platform, effective teaching, and continuous training in the field of technology.

Teachers' Results from the Interviews

The general belief of teachers regarding the value of integrating technology in teaching is also positive. Moreover, the findings from the interviews give a large number of teachers who stated that technology in the learning process can convert teacher-centered teaching approaches to student-centered teaching approaches. During their responses, the teachers expressed that technology affects the concretization of abstract notions, completion of the lesson, and higher student achievement. Also, teachers reflect on their experiences of integrating technology into learning using the spelling dictionary, during activities to present PowerPoint projects, quizzes, lesson planning, and the use of computer programs. They utilized supplemental technology that was part of the curriculum competencies by taking advantage of technology. Teachers guide their students in ways in which they use technology in homework, and research projects that play a motivating role and influence student achievement. The teachers pointed out the significant role of the director in the integration of technology in the teaching process, to equip the classes with smart boards, but they emphasize that only the support of the director is not enough, but the support from the higher levels is also needed. The teachers indicate that the steps taken by the

principal are that the principal supplies the school with technological equipment, sends teachers to professional development and training for technology, and that the decision-making bodies play an important role in the learning processes by improving and facilitating these processes. They listed evidence of the director's dedication to supporting the improvement of the school's conditions for the integration of technology, noting that he has made ICT cabinets, and supplied the school with laptops, projectors, printers and photocopiers. A high degree of interviewees evaluated the principal individually and stated that creating conditions for the integration of technology in the teaching process was a principal priority of principals. From the teachers' interview, they generally think that a quality school cannot be imagined without the integration of technology and think that it will affect the improvement of PISA results. According to the teachers, we understand that a good and quality school of the 21st century cannot be imagined without the integration of technology and that it is a pedagogical tool of contemporary teaching.

Students' Results from the Interviews

Interviews with students were conducted to gain first-hand knowledge of how the principal and teachers are supporting the learning process through the use of technology within the school. A trend analysis will follow to identify the similarities, as well as the differences between the answers of the principal, respectively of the teachers. All responses from principal and teacher surveys are documented, so we are presenting students' opinions about principals' practices in school technology integration.

The interviews conducted with students resulted in almost what the principals expressed during the interview, but there were also surprises. The students think that in addition to the support of the director with the supply of computers and laptops, they demand that the school be equipped with more advanced cabinets, also the director is creating better conditions, which motivates the students for the lessons. Also, teachers guide students to solve tasks using technology and develop projects in different subjects. They are using the projector and laptop to present the learning content and with their use, the lesson is becoming more interesting and all the students are paying attention to the presented topic. Likewise, the students also counted the advantages of technology in learning, where they showed the perception that through technology, they learn more about technology, understand concepts more easily, for research, to create ideas about the processing of topics in Hamer, etc. They are also using social networks to communicate with friends for learning purposes, this shows that students are capable of using new technology and hope that better conditions will be created in today's schools that try to integrate technology. the latest in teaching curricula.

Answers to Research Questions

The overarching focus and the first question of this research "What are the principals' practices for the successful integration of technology in schools?" aims to identify the leadership role of the school

principal in the successful integration of technology. To answer this question were examined the results from the questionnaires, interviews, and the observation list showing the general levels of the high-performance principles selected for the leadership dimensions in the context of its integration of the principal's role in fostering effective student relationships toward technology use, developing and supporting teachers for professional development and training in the field of technology, and visionary leadership of the introduction of new technology into the learning process. We can say that the results prove that about 80% of principals affirm that for leadership to be effective, technology must be integrated into the school and that they believe they can teach successful practices to others.

To gauge the impact principals encounter in technology integration, the second research question was posed: "What specific challenges do principals encounter in their practices regarding the integration of technology in schools?" This inquiry aims to understand significant shifts in school leadership practices and ongoing challenges in enhancing educational quality, where principals are increasingly seen as pivotal figures in advancing teaching and learning through technology integration. Participants in both questionnaires and interviews were prompted to reflect on the principal's role in planning, implementing, and supporting improvements associated with technological integration in schools. One of the challenges highlighted by principals in the study results is that schools are in the early stages of using technology for communication among teachers, students, and parents. In summary, based on my visits to all schools and observations of principals using a research checklist, I observed positive collaborative efforts towards technology integration. Principals highlighted specific challenges such as budget limitations for technology infrastructure. Additionally, another challenge identified was varying levels of technology adoption among teachers based on their age and familiarity with technology in the teaching process.

The third research question "What are the attitudes of school principals in the municipality of Prizren to promote the integration of technology in teaching and learning for a quality education?" The study aims to examine principals' attitudes towards promoting technology integration in teaching and learning for high-quality education. Principals were asked to reflect on their daily practices and leadership responsibilities to assess their effectiveness in enhancing teaching and learning through technology integration. Results from questionnaires and interviews reveal that all four principals exhibit positive attitudes, with only one expressing a neutral stance towards technology integration in schools. The findings indicate that teachers are highly motivated to advance their technology skills and receive substantial support from principals. Through descriptive statistical analysis—including measures such as means, median, standard deviation, skewness, kurtosis, and Pearson's correlation—the study explores the relationship between principals' roles and their efforts to promote technology integration in schools. Ultimately, each principal views themselves as a leader in using technology to enhance teaching and improve learning for a quality education in the 21st century.

Verification of the Hypothesis

To prove hypothesis 1: "School principals in the municipality of Prizren have good practices, where their actions support the perceptions of teachers and students about the successful implementation of technology in schools" we are basing ourselves on the results of the principals' questionnaires from table of t-test (one-tailed) which results is 0.001054 and from t-test (two-tailed) which results is 0.002108. We can see that the results are smaller than the 95% confidence level coefficient, i.e. smaller than 0.05, we conclude that hypothesis 1 has been proven and we can say that school principals in the municipality of Prizren have good practices, where their actions support the teachers' and students' perceptions of the successful implementation of technology at school.

Whereas, to prove hypothesis 2: "The principals of schools to promote the integration of technology in the municipality of Prizren have positive attitudes and that it affects the improvement of quality in schools" we are basing ourselves on the results of the principals' questionnaires from the t-test (with one-tailed) which turns out to be 0.001054, from the t-test (two-tailed) which turns out to be 0.002108 and from t-Stat with 3.76. From this, we conclude that hypothesis 2 has been proven and we can see that school directors to promote the integration of technology in the municipality of Prizren have positive attitudes, where the results of the t-test are smaller than the t-Stat, which shows that it affects in raising the quality in the school.

Discussion

As society increasingly embraces technology, school leaders are challenged with supporting the integration of technology into meaningful learning activities and assessing its use within their educational institutions. Discussions can begin by identifying good practices of principals who manage to successfully integrate technology in their schools for instructional purposes and become a model for other colleagues towards their vision of quality education. Also, the identification of challenges and attitudes of school principals in the municipality of Prizren to promote the integration of technology in teaching and learning for a quality education.

We can say that one of the essential practices is for principals to take an active approach to innovation, which can create an environment with great benefits for students and staff. These findings are consistent with the literature review and are just a few of the ways technology is impacting our schools. When analyzing the responses of principals who commented that technology had a positive impact on their schools, they also reported that technology had a positive impact on the role of the teacher, as a way of implementing the curriculum that was enhanced due to the presence of technology.

The results of this study provide a detailed understanding of the practices of school principals in the municipality of Prizren regarding technology integration in primary and lower secondary schools. The findings suggest that successful technology integration is closely linked to the leadership role of school principals, confirming the importance of principals in facilitating this process. This aligns with existing

literature, which emphasizes the role of school leaders in driving educational change through technology (Leithwood & Riehl, 2003; Ertmer & Ottenbreit-Leftwich, 2022).

Research findings indicate that when principals assume the role of technology leaders, teachers and students tend to integrate and utilize technology more successfully. However, many school principals lack experience as new technology users and have limited training in the knowledge and skills necessary to effectively lead in technology integration. To assist teachers in integrating technology, principals must stay current with the latest technological advancements. Without this knowledge, principals may struggle to support teachers in effectively using technology in the classroom. Furthermore, principals require diverse experiences to develop an understanding of how technology can enhance instructional practices and a range of strategies to aid teachers in integrating technology into their teaching processes. When we discussed with principals the negative impact technology has had on teachers, most of the comments focused on reluctant teachers who needed professional development to be proficient in the use of technology devices. However, most of the results from this study implied that teachers' success in integrating new strategies depended on how well they linked previous learning strategies with newly acquired ones.

The study found that principals who actively engage in technology use themselves and support their teachers in doing so tend to have more successful technology integration in their schools. This supports the findings of Baylor and Ritchie (2002), who argued that principals' positive attitudes towards technology are crucial in facilitating its adoption in schools. The principals in this study, particularly those with fewer years of experience, demonstrated a proactive approach in modeling technology use, which is consistent with the literature suggesting that younger and less experienced principals are more open to adopting new technologies (May, 2003).

Moreover, the positive attitudes of principals towards technology integration, as observed in this study, align with the conclusions of Polizzi (2011), who identified that principals' support is critical for the successful implementation of ICT in schools. The findings also echo the study by Zhao & Frank (2023), which highlighted the transformative impact of leadership on technology integration in educational settings.

Research findings indicate that principals generally hold a positive view of technology and actively use it themselves. Similarly, teachers are supportive of integrating technology into classroom activities. Consequently, principals are increasingly assuming roles as technology leaders, whether consciously or not. It is crucial for principals to take a proactive leadership stance in planning for the adoption and integration of technology within their schools. Moreover, principals' perceptions of the primary role of technology varied depending on their age and years of experience. Schools should prioritize allocating resources and offering opportunities for principals to undergo technology training. This investment can

enhance their technological leadership skills and improve the overall implementation of technology across schools.

The study identified several challenges that principals face in integrating technology, including budget constraints, varying levels of technology adoption among teachers, and insufficient infrastructure in rural schools. These findings are consistent with the challenges outlined by McLeod and Shepherd (2023), who discussed the barriers to technology integration in schools, particularly in terms of infrastructure and funding.

The disparity between urban and rural schools in terms of access to technology resources is a significant issue highlighted by this study. This finding resonates with the work of Fullan (2006), who emphasized the importance of leadership in overcoming obstacles related to resource allocation in schools facing challenging conditions.

To begin to fully appreciate the educational opportunities offered by technology, principals must highlight and encourage these innovative strategies for motivating and engaging students during the learning process. One way to transform learning by creating a 21st-century school is through the use of technology. This may include new technologies used within the classroom to help engage students in achieving curriculum competency outcomes.

Therefore, the question can be addressed to principals, how principals facilitate that process of integrating technology into more classrooms with the hope of raising student achievement? However, examining principals' perceptions of the impact of technology today has important educational implications for all principals and those programs that prepare them. It is important for educational management and leadership programs, when preparing them for a position, to understand the need for professional development of technological knowledge. If a principal does not know how to use it, as mentioned earlier in the literature review, the type of technology training has a statistically significant impact on integrating technology into the curriculum. This research has shown that the principals' perceptions of the impact of technology are positive and the other thing is that it is determined that these practices will be transferred to other schools. The principal's role in the facilitation strategy is not to solve problems personally, but to see how problems are solved. This strategy, by providing shared decision-making, may be appropriate for the implementation of technology in today's schools. Therefore, analyzing the answers of the teachers, most of them are satisfied with the cooperation of the director and his readiness for the integration of technology in the teaching process.

The study's results indicate that technology integration positively impacts teaching and learning, enhancing student engagement and improving educational outcomes. This is supported by the work of Darling-Hammond and Adamson (2021), who provided evidence on how technology can enhance student outcomes and overall school performance. Teachers in this study reported that technology

facilitates a shift from teacher-centered to student-centered learning, which is consistent with the findings of Yemothy (2015) on the importance of 21st-century learning skills.

However, the study also found that older teachers are less likely to integrate technology into their teaching practices, a challenge also noted by Johnston (2012). This suggests a need for targeted professional development programs to support teachers in overcoming these barriers, as recommended by Hattie and Yates (2021).

Certainly, principals acknowledge their role in technology-integrated leadership; however, their current practice often centers on modeling technology use and facilitating staff development among teachers. Principals at all levels must comprehensively grasp the educational system components essential for leading technology integration as a pedagogical strategy and fostering its transparent integration into teaching and learning processes. They need to embed technology into their daily personal and professional routines, effectively balancing leadership responsibilities with the implementation of a vision for technology integration. This includes maintaining consistent oversight and support for its educational use and employing reflective leadership practices to assess technology's impact and integration across various educational contexts. Principals must also champion and operationalize the idea that technology integration isn't merely a future-oriented initiative but a fundamental shift in pedagogical methods, crucial for supporting 21st-century teaching tools and practices. In summary, the study's findings contribute to a deeper understanding of how principals' evolving roles can enhance teaching and learning through effective technology integration.

The most important points of the study include the identification of challenges in the integration of technology, the influence of the practices of school leaders and the improvement of the quality of education. These findings relate closely to the research questions posed in the introduction, providing detailed and evidence-based answers. For example, the study shows that investment in teacher training and infrastructure improvement by school leaders contributes to a more successful integration of technology. The summary of results shows that these practices have a positive impact on the student experience and the quality of education, answering the research questions in a comprehensive and coherent way.

Interpretation and in-depth analysis of results connects the study findings to the broader context of technology integration in education. The results of the study help to understand the current practices and challenges in the integration of technology in schools, comparing them with the existing literature and models of technology integration. These have implications for various technology integration practices and how they help improve the quality of education.

New contributions of the study include identifying specific challenges not previously addressed, as well as providing recommendations for improved practices that can be implemented in the local context. The study reveals successful practices in other schools that are useful for our context, helps to adapt these

practices to improve the integration of technology in schools. In this way, the study contributes to existing knowledge and provides valuable guidance for educators and policy makers.

The findings of this study have several implications for the future practice of school leadership. Principals must receive ongoing professional development to stay abreast of technological advancements, as their leadership is crucial in driving technology integration. As suggested by Greenhill (2010), integrating technology into educational practices requires a comprehensive approach that includes both infrastructure development and teacher training.

The study also highlights the need for equitable resource allocation to ensure that all schools, regardless of their location, have access to the necessary technology. This calls for increased investment in educational technology, particularly in rural areas, to bridge the digital divide, as discussed by Waterman (2009).

Conclusion

Research has shown that the principal plays an important role in the integration of technology in schools. The data suggest that school climate acts as a mediator between the principal and teachers, who must adopt technology while maintaining high academic standards. Although principals recognize the importance of their role in technology leadership, most lack clarity on how to cultivate change so that technology becomes a meaningful part of teaching and learning.

The research was conducted on the practices of principals and helps to understand the influence of their ontological, epistemological and methodological beliefs. From an ontological perspective, principals' subjective attitudes can influence the use of technology, while an interpretive approach to the study provides a rich description of this phenomenon. The strength of the research lies in the examination of real-life situations and direct observations of practices in schools. At the epistemological level, gathering data from different perspectives helps build knowledge and deepens understanding of technology integration. Methodologically, the holistic approach of the study offers different perspectives and concrete experiences from continuous engagement with the studied environment and the reactions of teachers and students. From this research, we understand that most principals in schools see their role as being involved in the leadership and practice of integrating technology to achieve a quality 21st century school.

Recommendations

Higher educational institutions should verify the current state of schools in the integration of technology in the teaching process and equip schools with educational technology in a meritorious manner. Institutions train and advance directors in the integration of technology in teaching by assisting and guiding teachers and students to benefit from contemporary technology. Principals to engage in the actual functionalization of technology in their schools by collaborating with DKA and work more on different projects to benefit from local and international donations. Directors to define concrete action

goals for the integration of technology through the school's vision and mission. Directors consider financing alternatives and long-term planning, maintenance and replacement of technology with costs to facilitate sustainability. Principals cultivate a comprehensive practice in the promotion and integration of new technology for a quality school of the 21st century.

Limitations

Thorough data collection and rigorous analysis have bolstered the credibility of this research's findings and its potential applicability. However, it's important to acknowledge certain limitations or drawbacks when interpreting the research findings or contemplating their generalizability and future research implications. The study intentionally constrained the sample size and duration of data collection to align with available resources. The research is focused on the Prizren region, in three urban and two rural public schools, therefore there may be a bias in the financing of school infrastructure with technological equipment. Also, another limitation of this research could be the limited number of respondents, both principals and teachers.

Acknowledgements

I am grateful to the principals, teachers and students in the municipality of Prizren in Kosovo who participated in this research. Without their participation the research would not have been possible.

Conflict of Interest

I have no personal, financial or other interest that could, or could be seen to, influence the decisions or actions I am taking or the advice I am giving during my research for this study.

Funding

No funding involved.

References

Baylor, L. A., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms?, *Computers & Education, 39*(4), 395-414.

Brown, B. A. (2013). *How principals cultivate technology integration and use professional learning networks* (Master's thesis, University of Calgary). University of Calgary Repository.

Clark, R. C., & Lyons, C. (2004). *Graphics for learning: Proven guidelines for planning, designing, and evaluating visuals in training materials*. San Francisco, CA: Pfeiffer.

Darling-Hammond, L., & Adamson, F. (2021). The Impact of Technology Integration on Quality Education: Evidence from Recent Studies. *Journal of Educational Research*.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2022). Strategies for Effective Technology Integration in K-12 Schools: A Review. *Journal of Technology and Teacher Education*.

Fusarelli, L. (2008). Flying (partially) blind: School leader's use of research in decision making. *Phi Delta Kappan, 89*(5), 365-368.

GIZ. (2013). Mësimdhënia dhe të mësuarit [Teaching and learning]. Prishtina, *GIZ*, 7-15.

Greenhill, V. (2010). 21st century knowledge and skills in educator preparation. *AACTE*, 5-19.

Haughey, M. (2006). The impact of computers on the work of the principal: Changing discourses on talk, leadership and professionalism. *School Leadership & Management, 26*(1), 23-36. https://doi.org/10.1080/13634230500492825

Hattie, J., & Yates, G. (2021). Assessing the Quality of Technology Integration in Schools: Frameworks and Tools. *Journal of Educational Measurement*.

Jacobsen, M. (2010). Teaching in a participatory digital world. *Canada, Education Canada, 50*(3), 13-17.

Johnston, M. P. (2012). School Librarians as Technology Integration Leaders: Enablers and Barriers to Leadership Enactment. *Research Journal of the American Association of School Librarians*, 15, 2-7.

Kozloski, K. C. (2006). *Principal leadership for technology integration: A study of principal technology leadership* (Doctoral dissertation, Drexel University). ProQuest Dissertations Publishing.

Lee, D., Huh, Y., & Reigeluth, C. M. (2013). Learner-centered instruction. In R. M. Branch, et al. (Eds.), *Encyclopedia of terminology for educational communications and technology* (pp. 177-178). Springer. https://doi.org/10.1007/978-1-4614-6573-7_147

Leithwood, K. A., & Riehl, C. (2003). What we know about successful school leadership. *Philadelphia: [Research Brief]*. Philadelphia, PA: Temple University Laboratory for Student Success.

Machado, L. J., & Chung, C.-J. (2015). Integrating technology: The principals' role and effect. *International Education Studies, 8*(5), 5-11. https://doi.org/10.5539/ies.v8n5p5

Malik, L. (2015). *The role of the principal in promoting technology integration into the pedagogical practices* (Master's thesis, [University Name]). [University Repository or Publisher].

Mattheis, C., Wildbad, L. B., & Mehmeti, S. (2012). *Zhvillimi i kapaciteteve në udhëheqjen arsimore*. Prishtinë: GIZ.

May, S. J. (2003). The impact of technology on job effectiveness: Perceptions of highschool principals. *Dissertation Abstracts International, 64*(05A), 23.

McLeod, S., & Shepherd, J. (2023). The Role of Principals in Leading Technology Integration: A Systematic Review. *Educational Administration Quarterly*.

Newbill, P., & Baum, L. (2013). Design creativity. *Learning & Leading with Technology, 40*(7), 17-21.

Orhani, S., Saramati, E., & Drini, L. (2023). School administration through the school's electronic management system. *European Journal of Educational Management, 6*(1), 59-67. https://doi.org/10.12973/ejem.6.1.59

Pasquerilla, J. W. (2008). *The high school principal's perspective and role in regard to the integration of technology into the high school and how has the principal's role been impacted* (Doctoral dissertation, Indiana University of Pennsylvania). ProQuest Dissertations Publishing.

Polizzi, G. (2011). Measuring School Principals' Support for ICT Integration in Palermo, Italy. *The National Association for Media Literacy Education's Journal of Media Literacy Education*, 3(2), 113 - 122.

Rogers, G. E. (2007). The perceptions of Indiana high school principals related to Project Lead The Way. *Journal of Industrial Teacher Education, 44*(1), 49-73.

Schwiebert, E. L. (2010). *Technology integration in primary classrooms in Northwest Ohio*. (Doctoral dissertation, Bowling Green State University). OhioLINK Electronic Theses and Dissertations Center.

Staples, A., Pagach, M., & Himes, D. (2005). Rethinking the technology integration challenge: Cases from three urban elementary schools. *Journal of Research on Technology in Education, 37*(3), 285-311.

Trotter, A. (2007). Getting up to speed. *Education Week, 26*(30), 10-16.

https://kerjournal.com ISSN: 2710-0871

TSSA Collaborative. (2010). The principal as technology leader. In *National Education Technology Plan* (pp. 7-15). U.S. Department of Education.

Thomas, R. M. (2005). *Comparing theories of child development* (6th ed.). Belmont, CA: Thomson Wadsworth.

Waterman, B. P. (2009). An exploration of principals' perceptions regarding the value of technology in the success of select high schools in the Midwest, *Aurora University*, 1-4.

Woodbridge, J. (2004). Technology integration as a transforming teaching strategy, *International Society for Technology Education, 14.*

Yemothy, N. E. (2015). Improving Educational Technology Integration in the Classroom. *Walden University*.

Zhao, Y., & Frank, K. A. (2023). Transformative Leadership in the Digital Age: Technology Integration and Change. *Educational Technology Research and Development*.