

**RESEARCH PAPER**

The Role of Technology in Enhancing Educational Leadership at Primary Level

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ABSTRACT

The aim of the present study is to examine the technology role in improving educational leadership practices in schools. This qualitative study investigates the role of technology in enhancing educational leadership. The study examines how technology play its vital role in enhancing leadership practices, improves decision making, communication, collaboration with administrative staff and strengthening problem solving skills. The present study employed qualitative research design. The purposive sampling technique was used to select the participant. Data were collected through semi-structured interviews with three Government and three Private school principals of District Sialkot. Data were analyzed through thematic analysis approach. The findings of the study revealed that technology plays an effective role in leadership by supporting communication, enables evidence-based decision making, improving institution, management and encourage transparency and answerability. However, there are also some challenges like internet issues, limited budget resources and he need for ongoing training were observed. The study of this research concludes with that technology is an effective and essential tool for innovative leadership and contributes a lot in the effectiveness of leadership. The study recommends the proper training facilities and appropriate technological resources to guarantee the successful incorporation of technology in educational leadership.

KEYWORDS

Technology, Leadership, Educational leadership, Role of Technology

Introduction

In this modern era, technology became the most important part of teaching and learning. A large group of students could use technology to send and receive important informations related to their academic environments at primary education. Technology was also used at offices, where officers used it to access their information, deal fairly with their business partners by using diverse information. Looking beyond the aspects of technology, it proved great beneficial for teachers as well as students. Today, the use of technology was greatly organized in the institutions. By organizing the use of technology in institutions, teachers used effectively this to improve their teaching strategies. A good technology user fostered the deeper understanding in classrooms and leadership practices. The role of technology was to solve problems effectively, create effective solutions of existing problems and promote the use of technology in a purposeful and systematic way. The research or new innovations increased the new uses of technology. Managers also used technology to enhance their business dealings with foreigners and solved their business problems efficiently. Technology was also beneficial in leadership practices. In leadership, the whole group worked together to achieve the task; not only the leader was responsible. This leadership approach distributed the leadership tasks among the whole group that increased the capability of organization to solve their problems efficiently and to take appropriate actions at appropriate time. This thesis found that how technologies used at

leadership practices, solved problems, making appropriate decisions and collaborated with one another at this digital age. This paper was not written to prove that informational technology is to lead educational leadership directly, rather its purpose was to identify the basics therefore in the digital era it can be considered the educational leadership and its purposes, principles and priorities in an easy way. Today, in this digital age, technology became the demand of the educational leadership. Technology educated the leaders about the latest trends of innovations and interactions and taught them how the world is growing and changing so fast. This research paper indicated that how technology was used in educational leadership. This leadership foundation provided detailed information about how technology was used in educational leadership to solve problems efficiently, make effective decisions and improved effective school management, learning, teaching and administration. In future, when changes were occurring the technology could also be changed over time. In the 20th century, the researchers and learners emerged to being looked at different leadership practices in point of view of their traditions, values, emotional experiences and faith that influenced from the governmental, traditional and societal circumstances. The educational leadership styles revolved around the government laws, country traditions and the societal changes. These changes were the theoretical and systematic study for what the leadership did in the different situations. How the leadership was defined and how the leadership was measured and demonstrated in broader term in schools. The foundation also showed efficiency, advising those leadership practices that are appropriate and effective from other leadership styles. The technology provided the best leadership style for enhanced and improved system and management. Technology Integration in Educational Leadership Educational leadership was a complicated job, but it could be made easier by using modern tools. Modern tools helped school leaders sharing information with others and use data to make right decisions. Before, effective school leaders must know and use modern tool. Technology leaders used online tools and social media apps to meet with teachers, students and parents. This made communicating and helping school courses easier. On the other hand, using modern tool in schools also be challenging. Leaders had to keep learning new skills and keep learning new things to update with technology trends. Not every modern tool was appropriate for primary schools so school leaders had to choose carefully. There were many challenges in using modern tool such as objection to change and limited time and limited tools. Continuous professional development (CPD) was main to guide employs learn how to use modern tool confidently and efficiently. Even though technology was important, strong relationships between heads and workers were more significant. Technology was not only a tool; result relies on collaboration, trust, clear aims. When used properly, technology help heads improve sharing information, manage work easily, help in skilled learning and build a thinking habits and improvement. The use of technology in education leadership had many advantages like effective communication and betterment in student learning. Modern tools made sharing information faster and clearer by helping leaders share important things. It directs to better and smarter decision making. When structure were productive school heads spent less time on files and more time on advising teachers and targeting on student learning. Technology motivated cooperation. Educational leaders could work effortlessly by sharing a large amount of data. At the once the same time the roles of educational leaders were rising which made access to valid data even more important. On the other hand, technology amalgamation also brought challenges. Many of leaders had to change how they work by updating their roles, errands and leadership styles. One major obstacle was the need to fund and use technology was difficult for classic school heads and workers. They found this difficult because they had a deficiency in technical skills and had limited period for professional development. In this modern age, technology has influenced all aspects of education. But in many educational institutes, its effective use is still challenging in the department of leadership. It is crucial to understand the educational leaders that how

technology can enhance decision making and problem skills. However, it has seen the lack of resources, unavailability of education and behavior of resistance may hinder the effective use of technology. The aim of this research is to know that to what extent does technology helps educational leadership more effective and which factors can help to get desirable benefits. The role of technology in enhancing educational leaderships has become an important part of modern education. It facilitates leaders to use real data for plotting and evaluate student performance more effectively. School leaders are expected to improve teaching quality; learning and technology give advanced tools to accomplish their goals. Through digital system, leaders can reach reliable data examine school performance and plan improvement more effectively. Technology can help leaders in decision-making; communicate with parents who increased accountability and support. Today, students learn in a digital world. Leaders who understand the importance of technology can guide schools toward modernized method that make students ready for future challenges.

Literature Review

In this modern era, when the use of technology became so fast, technology in educational leadership was also becoming the fundamental part of this digital age. Technology in educational leadership practices became one of the most important growing factors of this modern age. According to Haleem et al (2022) technology could greatly affect the changes in educational leadership practices by fostering collaboration, coordination, novelty and conversation. Digital tools could enhance the leadership practices by encouraging strong decision-making, helping in administrative processes and emphasized on continuous improvement. A successful and growing leadership practices needed strong communication and coordination. It was greatly admired that the uses of technology makes the conversation and teamwork possible. The leaders of institutions could easily communicate with other members of all over the world by using online digital messaging and face to face video interaction apps, that broke down the traditional hurdles and encouraging a comprehensive and unlocked culture . Instead of this, there were several hurdles and challenges linked to digital apps that fell in administration processes, and those remote areas where the access of technology was limited. In other countries, the use of digital technologies are not equally adopted, that causing irregularity in enhancing leadership efficiency . In addition, when junior leaders were quickly tailoring to digital tools, the senior leaders often struggled with digital tools and were bounded in their ancestral leadership practices . This research was based on the past literature, by identifying that how leaders could face the communication challenges and how they coped with these challenges to strengthen digital collaboration. Educational leaders had to have professional growth and continuous learning to explore new areas of digital age. The studies organized by Alamri et al. (2021) explained that the use of digital tools provided reachable, refined and continuous learning chances. By using digital tools, leaders could always keep informed of new trends and issues in education, strengthening their abilities by involving in online digital groups and sources

Besides these opportunities of digital leadership, various studies defined that many of the university leaders may lack of systematic training in the digital leadership (Jameson et al., 2022). The professional development was infrequent and disorganized when few of the institutions were providing proper training programs on digital tools . The rest of the schools were offering short-term training programs, there was the need for offering long-term trainings programs that helped leaders with important digital tools and skills. This study depended on past literature by pointing professionally development issues and suggesting suitable training programs to cope up with these hurdles. In recent years, remote leaders had become important aspects in primary education, mainly due to the

interference catalyzed by Covid-19 health crisis. Primary schools worldwide were supposed to quickly adapt leadership practices by redirecting primary education management and student coordination to digital context (Ferreira et al., 2021).

By using online communication tools and control system. Educational leaders developed expertise to lead administrative task, evaluate institutional outcomes, and conduct meeting applying policies without depending on in-person attendance on campus (Cortellazzo et al., 2019). Moreover, many primary education organization stayed connected in leadership legacy that chosen physical interaction, shifting to remote leadership both multi-dimensional to change. In reaction to these challenges, the current research checked now primary education head, institutional and culture hurdles in implementing policies and considered approaches that helped effective leadership in virtual learning environment.

Though the potential learning benefits of technological transformation, the execution of remote leadership was often restricted by structural and technological restrained. Earlier research revealed that weak digital facilities and avoidance to adopt new technologies remain restrictive the success of digital leadership efforts primary education. Administration in primary education has been studied more extensively in the context of how institutions undertake and manage digital change. In this context, transformational leadership theory formulated by Bass and Riggio (2022) clarified how leaders can influence behavior by motivation and dedication. This conceptual approach to leadership emphasized on going learning and institution that enhance capacity to react effectively to confronted with digital media. By communicating of a collectively endorsed institutional vision and the giving authority of covering both academic and managerial functions visionary leaders supported smooth integration to digitization of institutional process. This concept kept compatibility of important aspects of leadership effectiveness, which included transformation and adaptation, encouraging cohesion and unity, also promoting the use of new technology to enhance editorial performance. Those leaders who had abilities of transformational leadership, succeeded in adapting the technology and it also played a vital role in institutions. Use of technology promoted the performance of institutions that's why their leadership is more effective.

Material and Methods

This chapter delivers complete research methodology used to explore how the use of technology enhanced leadership practices in public and private primary schools in district Sialkot. This chapter gave in depth review of principals, vice principals and senior teachers regarding the role of technology in enhancing leadership practices. To gather the meaningful data, semi-structured interviews and open-ended questions were conducted. For the interpretation of the findings patterns and common insights thematic analysis can be used. Moreover, this chapter describes the research paradigm, design, data collection methods, data analysis procedure, research instruments and ethical consideration. This study follows the interpretivist paradigm which is based on human experiences and subjective type interpretations. The research paradigm is used to explore that how educational leaders used to technology in their daily leadership practices. This study is based on qualitative research approach which specifically follows the phenomenological design. This qualitative research design helps the researcher to explore the in-depth sights and lived experiences of the participants regarding how they used technology influence their leadership practices. This population refers to the all individuals who are included or affected by educational leadership and technology in school. The purposive sampling technique was employed to select the sample. The following criteria were used to select the sample: 1. only those school principals selected who were voluntarily become the part of

study. 2. School administrators (principals, vice principals, senior teachers). Who have minimum 3 years of experience in school? The data were collected through semi structured interview protocol to explore the practices of school leaders in using technology as a leadership tool to enhance their leadership practices. Interviews are perfect for collecting personal and detail answer from the participant. Some sample interview questions are; • what type of technologies do you use for your daily leadership task? • Do you think technology has improved communication between school leaders and teachers? In semi-structured interview, face to face and one on one meeting with participants are conducted in a comfortable and safe environment. The interview can take approximately 35-40 minutes. The answer of the participants can be noted using audio recorded files. During the interview, hand written notes were also taken to highlight the important key points of the participants. The data from the interviews will be analyzed using thematic analysis, a widely and qualitative technique developed by Braun and Carke (2006). The process involves:

Familiarization: Listening audio recording, transcribing interviews and reviewing field notes. Generating codes: Identifying ideas such as teaching roles and leadership practices. Searching for themes: Group all the related codes in broader themes. Reviewing themes: Cross checking the themes that represent the experiences of the participants. Defining and naming themes: Provide meaningful labels to each theme. Producing the report: Using participants, key words to support findings to find more accuracy.

Results and Discussion

The Teacher's Experiences

P1 said that technology plays a vital role in their leadership tasks. They used many digital platforms to manage their school and leadership task. However, the other hand, P2 and P3 were also admired that technology makes their leadership tasks easy and their experience were great after using technology tools in their leadership practices.

Digital platforms used in leadership practices

P1 described that they use digital tools like whatsapp, google and different communication apps in their daily leadership tasks. While P2 said that they used multimedia and projectors for their daily leadership practices to enhance student's engagement. And P3 stated frequently using technology to support teaching and learning.

Technology enhancing staff management

P1 believed that technology enhancing their ability in managing teachers and staff. They supervise their all staff through digital monitoring system and aware with their performances and stay updated with their attendance. Similarly, P2 emphasized that technology makes it easier for them to communicate with their teachers easily. Likewise, P3 reported that technology plays a vital role in coordinating, planning and communicating with teachers and staff.

Improve decision making and problem solving skills

Technology helps a lot in decision making and problem solving skills. P1 said that we use HOTs (digital app) in which we learn how to manage our students and class and make decisions effectively. P2 stated that the use of digitals apps like AI and HOTs is very helpful to make effective decisions and solve their problems. P3 said that with the use of

technology we can make better decisions and solve our queries and problems. It helps to make timely judgment for better improvement.

Challenges in integration of technology

P1 described that internet problem is one of the major hurdle in integration of technology. Moreover, a wide range of students were facing electricity and less budget problems beside this, the teachers have less training in using technology and do not know about new advance equipment through which it is difficult to integrate technology in institutions. P2 highlighted the challenges associated with technology adoption in a developing country. P3 stated that it's actually a big challenge because there is limited technological resources, slow internet connectivity and lack of proper teaching trainings.

Collaboration among school leaders, teachers and parents

P1 said that we make whatsapp groups with parents and informed there with homework and latest news and notifications. In the time of Pak-India war, we take online classes as well as online meetings with teachers and parents to make collaboration with them. Collaboration between school leaders, teachers and parents is essential for strong and healthy environment of educational institutions. P2 and P3 expressed similar views they said that by using technology, teachers can make online groups with parents in whom they send and receive messages and collaborate with leaders, teachers and parents. This helps them to build a strong relationship among school leaders, teachers, and parents.

Technology enhancing decision making and problem solving skills

P1 admired that technology helps a lot in making correct and suitable decisions on time regarding to students and educational problems. Moreover, it helps school leaders in solving problems efficiently related to administration. P2 mentioned that technology plays a vital role in enhancing decision making and problem solving skills. P3 noted that technology improves problem solving skills and also supports efficient school management.

Technology influence school culture and educational visions

P1 pointed out that technology totally changes the school culture and vision of teaching and learning. In past, teachers used boards and conservative methods but now technology shapes the educational vision. Now, multimedia and projectors are used to supports students academics. Instead of, P2 and P3 believed that technology modified us and change the vision and culture of school. Technology fosters creative thinking, digital learning and support among students. It encourages collaboration and communication among teachers, students and parents.

Measuring the leadership outcomes and effectiveness

P1 observed that the students are consistent in their work and technology helps in their academic activities. When students show positive results it also plays a positive role in leadership activities. The positive results, academic achievements and strong positive responses from the staff are the success of leadership role of educational institutions. P2 stated that when school leaders are skilled in using technology, they are more likely to learn and adopt new tools and techniques. P3 explained that when we teach students by using technology they actually understand the concepts and their results get better. So, attendance records and improvement of educational progress is the symbol of success.

Future of technological leadership

P1 strongly believed that the future is all technological. Technology plays a vital role now a day and also in future. In future, leadership was not a leadership; it will be equipped with modern digital tools and technologies. It will help and support leaders with new tools and innovations to solve problems and make decisions. P2 said that in Modern Era, technology will change our educational institutions into smart schools where education is more effective. P3 stated that In the future, I see technology playing a transformative role in education. Students learn new things according to their needs.

Findings

The following are the major findings of the study

Improved communication

Participants demonstrated that technology helps a lot in communication between school leaders, teachers and parents. Advanced technological tools like whatsapp, email and online digital platforms make quick sharing of information among them.

Enhanced administrative efficiency

Participants admired that technology enhanced their administrative efficiency. Now, with the help of technology school leaders manage their teachers and staff. They supervise their administration with digital monitoring system and stay updated with their performances.

Better decision making

Participants believed that technology helps a lot in their effectively and timely decision regarding school management and leadership tasks. Technology enhanced their ability to make real time and appropriate decisions.

Strengthened collaboration

Participants stated that technology helps in making collaboration among parents, teachers and staff through online digital platforms and virtual meetings.

Support for professional development

This study indicated that technology plays a vital role in the professional development and continuous learning of staff and leaders through online course and webinars.

Positive impact of school culture

The findings of the study reported that technology enhance the positive culture of school through innovations, accessibility and answerability.

Challenges in technology integration

Beside the advantages of technology, there are also some challenges like internet issues, electricity and less budget problems which can create hurdles in technology integration.

Future importance of technology

Participants considered that technology would continue to play their effective role in strengthening educational leadership practices and outcomes in future.

Conclusion

The study summarize that technology contributes significantly in promoting educational leadership in modern educational institutions. The outcomes show the use of technology helps educational leaders fulfill their duty more productively and smoothly. This study more summarize that technology improves communication among parents, teachers, administrators and students supervising to more capable professional relationships and better cooperation. Another conclusion of this research is that technology help educational leaders in making wise decision via the presence and evaluation of relevant data. Moreover, digital tools promote collaboration between educational professional and make options for giving knowledge and experience. The study result also advises that technology support to the professional growth of educational leaders by giving availability to continuous learning and progressing option.

Recommendations

Based on the major findings, the following action plan is suggested:

- Educational leaders should use technology in their daily leadership tasks and activities.
- Educational leaders must ensure they adopt new technological ideas and new learning tools to make learning more effective.
- Academic institutions should improve their technological resources and provide access to upgraded digital resources.
- Educational institutions should arrange training session to assist staff members in developing technology staff.
- Proper financial aid should be provided for technology related educational activities and courses.
- Policy makers should develop sustainable plans that foster the use of technology in educational leadership.
- Staff should actively participate in professional learning activities related to technology.
- Education professionals should work with school administrator to effectively apply digital programs and innovations.

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