Chapter 13
Transforming Education Through Technology and School Leadership

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ABSTRACT

In an era where technological advancements are shaping facet of our lives, education stands as promising domains for positive change. The fusion of technology and school leadership is revolutionizing the way students learn, teachers teach, and administrators manage educational institutions. This chapter explores the pivotal role that technology plays in school leadership, highlighting its potential to create a more effective, equitable, and engaging learning environment, there is no reason to assume a new gadget will result in new teaching practices if our technology integration tactics do not change. Students are producing remarkable work in some iPad courses. Tablets are generally used to duplicate current procedures, nevertheless. School leaders must work with their communities to develop a vision how new technology will improve instruction, support educators in imagining how new technologies can support those visions, and support teachers and students as they transition from using tablets for consumption to using them for curation, creation, and connection.

DOI: 10.4018/979-8-3693-0880-6.ch013

THE DIGITAL AGE AND EDUCATIONAL TRANSFORMATION

The 21st century has seen an extraordinary expansion of digital technologies, ranging from widespread smartphone use to advancements in cloud computing and artificial intelligence (Smith & Jones, 2020). These innovations are more than mere tools of convenience; they act as pivotal agents in transforming the educational landscape. School leaders are now tasked with harnessing these technologies not merely as gadgets, but as vital components in cultivating an education system that is student-centered, globally connected, and adaptable to the ever-changing world. In this digital era, technology is intertwined with everyday life, offering opportunities for learning at any convenient moment . This novel approach to education, however, requires a thorough examination of its benefits and challenges, particularly in meeting the needs of modern students and in optimizing the teaching-learning process (Bilyalova et al., 2020).

The rise of the digital age has led to significant shifts in education, predominantly in preparing students for future workplace demands (Alkaabi et al., 2023; Bond, 2018; Qablan et al., 2023; Qablan & Al-Qaderi, 2009). Such a transformation calls for a clear and strategic vision from educational leaders and active participation from all stakeholders (Balyer, 2018). Essential competencies in this new era include proficiency in digital technologies and the ability to engage in a global context (Khalil et al., 2023; Rasskazova, 2020). Implementing technology in education holds promise for enhancing educational quality and, consequently, national welfare (Sitepu, 2022).

Schmidt and Cohen (2015) depicted the digital age as a time of both immense opportunities and significant risks, emphasizing the unprecedented growth of the virtual population that may soon surpass the physical one. Anderson (2015) raised concerns about a potential "digital dark age," suggesting that the full potential of digital advancements might not be fully realized. Weller (2009) stressed the vital importance of universal digital access and the transformative power of digital interactivity on relationships, while also highlighting the need for authenticity in digital information. Lastly, Kaur (2019) examined the transformative impact of the digital age with a focus on the challenges faced by those struggling to adapt to rapid technological changes (Abdallah & Alkaabi,2023; Bataineh et al., 2022).

EMPOWERING SCHOOL LEADERS WITH DATA-DRIVEN INSIGHTS

In the past, decision-making in education often relied heavily on intuition and a limited set of data. Johnson et al. (2021) noted that the advancement of technology had equipped school leaders with powerful data analytics tools and provided deep insights into areas such as student performance, teacher effectiveness, and resource allocation. They observed that this shift towards data-driven decision-making had enabled leaders to make informed choices, which lead to enhanced student outcomes and more efficient use of resources (Jandigulov et al,2023).

The importance of practically using student data for school development was underscored by legislation such as the No Child Left Behind Act (NCLB). However, Johnson et al. (2021) highlighted some challenges, particularly when student data was stored in formats that were difficult to access, modify, and analyze. This often hindered compliance with such regulations and limited the use of data to inform instruction at the classroom level. They also noted that recent developments in computer technology had improved the organization and accessibility of student data (Abdallah & Alkaabi,2023). These advancements not only facilitated more straightforward accountability reporting but also provided user-friendly