Migration Letters

Volume: 18, No: 3 (2021), pp. 364-375

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

The Impact Of Technology On Education Planning And Administration

Garima Bhati[1] , Dr. Jyoti Dahiya[2]

Abstract

Education has been profoundly influenced by the lightning-fast rate of technological progress, which has compelled institutions to modify and adapt. Administration, instruction, and production may all benefit significantly from technological advancements. Increases in student independence in the study and gains in student cooperative learning, curricular integration, learning style strategies, and cross-age tutoring have all been connected to its use. It is essential to translate theoretical knowledge into practice by understanding the advantages and limitations of technology in the classroom and in administrative jobs. The introduction of web-based LMSs like WebCT and Blackboard, which integrate pedagogical and administrative tools, has had far-reaching effects on the field of higher education. The perspectives of technology on educational planners and leaders were revealed in this qualitative study. Institutional administrators' viewpoints on risk assessment were gathered using an open-ended questionnaire called the "Interview Form for the Evaluation of Technology Use by Institutional Administrators." We employed content analysis to extract meaningful information, form meaningful concepts, logically arrange[1] data, and spot patterns. The research attempted to build bridges and spot patterns in the data, leading to a more refined conceptual framework. 73% of administrators are self-driven, knowledgeable, and computer savvy, and 40% are dedicated to continuing their education and professional development. The results may be used by educators and administrators to integrate technology better, enhance pedagogy, and optimize administrative procedures, all of which contribute to an educational setting that is more open to innovation and diversity.

Keywords: *Administrations, ICT, Education, Qualitative, Learning.*

Introduction

The rapid pace of technological change, coupled with the profound effect of new technologies on education, has forced institutions of higher learning to evolve. According to Bates (2000), technology is crucial in making administrative and educational procedures more effective. Putting technology to good use in the realm of administration may open up new avenues of knowledge, inspire fresh perspectives, and boost productivity. Technology use in the classroom has been linked to improved students' writing, cooperative learning, curriculum integration, learning style techniques, cross-age tutoring, teacher communication, community relations, and the number of students worldwide who can study independently. Understanding the benefits and drawbacks of technology in the classroom and administrative roles is crucial for effectively translating theoretical knowledge into reality. Using technology in the classroom helps maintain the status quo,

[1]Research Scholar, Lingaya's Vidyapeeth, Faridabad.
[2]Associate Professor, Lingaya's Vidyapeeth, Faridabad.

exposes students to new perspectives, and improves academic outcomes (Krentler & Willis-Flurry, 2005) (Gülbahar, 2007).

Technology has had a significant influence on educational administration and policymaking, changing the face of education all over the globe. Technology's introduction into the classroom has profoundly affected the instructional process and the management of schools. This introductory section gives an overview of how technology has affected educational planning and administration, focusing on its most significant contributions and ramifications for various parties involved in the field of education. Since two billion kids spend half of their waking hours using resources like iPods, YouTube, Google, and Wikipedia outside of the classroom, the new networked era necessitates rethinking education, learning, teaching, and schooling. (victorious kidsseducares, 2013)

Computers, the internet, and other forms of ICT, such as electronic delivery systems, are often utilized in the classroom. Regular computer activities may take place in both the home and the classroom. According to Kent and Facer (2004), information and communication technology (ICT) is widely used to catalyze educational reform and transformation. When used effectively, ICT may raise the standard of education and make connections between theory and practice. Learners alter their goals and strategies for acquiring new information during their lifetimes. Weert and Tatnall (2005) argue that students like these can only succeed in today's ever-evolving classrooms with strong ICT skills.

The fast development and effects on teaching and learning provided by learning management systems (LMS) have had far-reaching consequences in higher education. Internet-based, enterprise-scale solutions like WebCT and Blackboard combine several teaching and management resources in one place. They can establish online virtual universities and virtual learning environments for students studying on campus. The use of LMS is rapidly expanding in higher education, giving conventional campus-based institutions a virtual component. In contrast to HR or financial management software, online LMS has the potential to have a far-reaching effect on education. Despite the widespread use of learning management systems (LMS), studies examining the pedagogical effects of these systems are only getting started. (Coates et al., 2005)

Enhancing Administrative Efficiency through Technology

The use of technology has had a profound effect on educational institutions' capacity for strategic planning and general administration. Automating formerly labor-intensive processes, such as record keeping, has been made possible by solutions such as learning management systems (LMS), student information systems (SIS), and administration software. Educators and school leaders can now better devote their time to long-term planning and individualized attention for each kid.As of 2017 (Picciano).

The Changing Paradigm of Education Planning

Planning for education has several moving parts, including creating a curriculum, designing lessons, deciding how to test students, and allocating funds. As a result of technological advancements, educational institutions can shift their focus from teaching to learning. As a result, a wide variety of teaching strategies are now in use, making it possible to meet the requirements and preferences of all students. To wit: (Khan & Hasan, 2018)

Data-Driven Decision-Making in Education Administration

As a result of the widespread use of technological solutions in educational management, institutions now have ready access to a wealth of information on student achievement, attendance, and engagement. Educational data analytics makes Evidence-based decision-

making possible, which delivers valuable insights into the educational environment. This helps school leaders spot problem areas, distribute funds efficiently, and adopt strategic measures to boost student achievement (Levy & Schuck, 2016).

Opportunities and Difficulties

While there are many ways in which technological advancements might improve educational strategy and management, there are also risks that must be evaluated. One of the most pressing issues in closing the digital gap is providing pupils with fair access to computers and online materials. Educational institutions face several obstacles on the road to fully capitalizing on technology's potential in educational planning and administration. These include resolving data privacy and security issues, providing adequate professional development for teachers, and keeping up with the ever-changing nature of technology. (Warschauer, 2014)

Literature Review

Little is known about how the widespread deployment of Learning Management Systems (LMS) influences classroom dynamics, student involvement, the character of academic work, or who has access to what students learn. This study critically analyzes the possible influence of LMS on teaching and learning at universities, drawing on Australian experience. It stresses the significance of inquiries and reviews at the highest levels, such as when leadership initiates assessments of educational and organizational outcomes, when feedback systems are modified, and when the curriculum is reviewed in light of potential risks and benefits. Institutional administrators and leaders are essential in defining norms and tone for the complicated adoption processes. Therefore, learning management systems (LMS) must be adopted and deployed in an open, inclusive, and educationally informed way. The instructional significance of LMS in institutions and higher education may be better understood if leadership encourages research and reflective practice. (Coates et al., 2005)

This article draws on literature and data from two studies to investigate the challenges associated with K-12 and higher education faculty members' embrace of technology. The concept is meant to help those who create and construct pre-service and in-service teacher education curricula overcome internal and external barriers to effectively incorporate modern technology. Most technology plans center on allocating sufficient funds, but doing so correctly may foster favorable views of technology and impede the smooth adoption of cutting-edge tools. Funding for technology, staff, and training may break down these barriers and provide a more welcoming and productive classroom setting for all students. (Rogers, 2000)

The COVID-19 epidemic has pushed professors to embrace digital classrooms. Ten science and technology colleges were surveyed, and eight students were interviewed as part of mixed-methods research focusing on educational planning. Teachers' views and practices were reasonably consistent, indicating that educational planning and policies helped them adapt to changing demands and changes. The research focuses on transitioning from emergency remote teaching to regular, sustained online education and the contradictions between attitudes and behaviors that arise throughout this process. The research provides information that may be used for educational preparation before, during, and after catastrophic events like pandemics. (Gao et al., 2022)

Focusing on the benefits, difficulties, variables affecting effective integration, and the significance of school culture, this study compiles findings from the literature on ICT integration in education. It discusses where the literature could be improved and where it

may go next. Teachers, students, and school officials all have a role to play in making ICT integration successful. This study looks at where we are now, our challenges, and how we might overcome them by incorporating ICT into the classroom. This study aims to give a clear roadmap for future studies on the impact of ICT. (Fu, 2013)

Technology-Assisted Instruction and Adaptive Learning

Personalized education is one area where technology has had a significant influence. Teachers may now accommodate their students' diverse learning styles, interests, and requirements using adaptive learning technology and intelligent tutoring systems. These tools evaluate students' progress and adjust lesson material and delivery to boost motivation and performance in class. (Sung et al., 2016)

Models for Online and Hybrid Instruction

Technological advancements have facilitated the increased use of online and hybrid learning formats. Providing possibilities for students and instructors to connect and cooperate in virtual settings, Learning Management Systems (LMS) and virtual classrooms have become central to educational planning and administration. Blended learning has become more popular because of its adaptability and capacity to meet the demands of students with varying backgrounds and learning styles. According to (Graham, 2016)

Making Educator Policy With Accurate Data

Data-driven decision-making is one way in which technology has transformed educational administration. Data from student grades and attendance to faculty workloads and budget allocations are now easily accessible to educational institutions. With data analytics technologies, school administrators may now use this information to inform curriculum development, resource allocation, and student assistance (McMahon et al., 2017).

Efficient and Effective Administrative Automation

The use of technology has improved the efficiency and effectiveness of educational administration by streamlining administrative activities. Because of administrative software, student information systems, and computerized grading systems, educators now have more time to concentrate on teaching and curriculum development. In addition to streamlining administrative tasks, automation has made it easier for teachers, administrators, students, and parents to work together. McGowan and Gunter (2017)

Integration of New Technologies and Training for Professionals

As a result of technological advancements, educators now have more novel and readily available options for continuing their professional development in technology. Opportunities for professional development abound in the form of online platforms, webinars, and digital materials that can be adapted to meet the requirements and preferences of a wide range of users. Educators who have received high-quality training in technology integration are better able to use technological tools in their lessons. Kimmons and coworkers (2017)

Research Gap

Despite the growing prominence of technology in education, there is still a lack of comprehensive understanding of the challenges and implications associated with the widespread deployment of Learning Management Systems (LMS) in educational institutions. While some studies have focused on the benefits and possibilities of LMS, there remains a gap in the literature regarding its potential influence on classroom

dynamics, student involvement, the character of academic work, and equitable access to educational resources. Moreover, limited research has explored the role of institutional administrators and leaders in defining norms and facilitating an open, inclusive, and educationally informed adoption of LMS. There is a dearth of research on the transition from emergency remote teaching to sustained online education, and the contradictions between attitudes and behaviours that arise throughout this process, particularly in the context of the COVID-19 pandemic. Addressing these gaps will contribute to a more comprehensive understanding of the implications of technology in education and inform strategies for enhancing its effective use and integration in educational settings.

Methodology

This study used a qualitative methodology to uncover educators' and policymakers' perceptions of technology's influence on curriculum development and management. In order to collect data, qualitative researchers do things like in-depth interviews, focus groups, and document reviews. It is based on a holistic and literal approach that considers things in their natural context. Qualitative research is helpful because it helps researchers grasp how people think and feel.

Based on interviews with school and college administrators, this study evaluates the benefits of incorporating technology into administrative tasks. It also makes an effort to consider the problems that administrators encounter while using technology in their work and personal life.

Research Objective:

The objective of this study is to assess the readiness and capacity of educational institutions to effectively implement and integrate technology in their classrooms. Specifically, the research aims to:

1. Investigate the drive, insight, and proficiency of institutional administrators in adopting and implementing technology effectively.

2. Examine the perceptions of institutional heads regarding the availability of hardware and software necessary to use technology effectively in the classroom.

3. Assess the presence and adequacy of technical personnel in educational institutions to handle the maintenance and upkeep of technology.

4. Evaluate the comfort level and attitudes of administrators towards technology, including their level of confidence or dread in utilizing technological tools.

5. Explore the evidence of successful integration and effective use of technology in the lessons delivered by teachers at the institutions where the administrators participated.

By addressing these objectives, the study will provide valuable insights into the overall preparedness of educational institutions to utilize technology as an effective tool for enhancing teaching and learning experiences.

Data Collection

The interview is one of the most essential methods for gathering information for scientific studies. The purpose of conducting an interview is to get insight into the respondent's state of mind. Perception analysis is one of the most effective tools for studying people's

thinking. In order to find certain traits or areas of competence used a technique called purposive sampling to choose study participants. With the use of focus groups, interviewed 15 participants for this research.

Qualitative research techniques, including standardized open-ended interviews, were used in the study to limit the researcher's influence on the findings. Appropriate data-gathering instruments were determined after consulting with experts. The 'Interview Form for the Evaluation of Technology Use by Institution Administrators' is an open-ended questionnaire designed to elicit the perspectives of institution administrators on risk assessment. The researchers created the survey and had it reviewed by three teachers before releasing it. This strategy aims to collect institutional administrators' opinions on risk assessments from the research community.

In-depth interviews with study participants were recorded for further analysis. These recordings aid scholars in recalling key terms, defining content analysis categories, and deciphering administrators' perspectives on technological matters. Discussions and views on technological matters may be analyzed and reviewed, and new categories for content analysis can be defined using these recordings.

Data Analysis

The thematic analysis technique was used to do a content analysis on the data collected from the administrators to identify salient and significant features of the prescribed material. Conceptualizing the data, arranging it logically, and looking for trends are the main goals of this procedure. Content analysis is often utilized when analyzing qualitative data, especially when the data comes from interviews or free-form inquiries. The study's overarching goal is to establish connections and identify patterns in the data. As a result of this exercise, the researcher's conceptual framework became more refined.

The phenomenology approach to data analysis involves classifying responses based on how similar or unlike they are to one another. These classifications show participants' perceptions and experiences of many topics across disciplines. The content analysis strategy used is categorical data analysis. Data analysis is the first step in the coding process, and coding is a labeling activity that occurs throughout the process, beginning with restricted and descriptive deductions and progressing to higher-level ideas for data integration.

Results

Data analysis and interpretation strive to be objective processes, meaning they are conducted without bias and follow systematic and standardized methods to ensure the reliability and validity of the results. Objectivity in this context means that the analysis is not influenced by personal beliefs, opinions, or emotions of the analysts. In the ensuing part separate analysis has carried out for each objective:

Objective 1:

“Do institutional administrators have the drive, insight, and proficiency to implement technology effectively?

Table 1 show that a sizable majority (73.30%) of institutional managers are willing and able to embrace technology in their institutions. Another 40% keep up with technology, eagerly learn new skills, and argue that it has become an indispensable part of our life.

Table 1: Administrators' perspectives on the requisite interest levels, familiarity, and proficiency using technological tools

Questions	**Have expressed a viewpoint**	**%**	**Not Expressed Any Views**	**%**
The desire to implement technological solutions	14	93.3	1	6.7
Having technological knowledge and skills	11	73.3	4	26.7
I advance my knowledge and skills in the technological realm.	6	40	9	60
Effective use of technology is a need in today's world.	5	33.3	10	66.7

The administrators require the following motivation, knowledge, and abilities to make the most use of technology, as expressed by the participants:

One participant believes it is now challenging to survive without technological assistance.

Another participant expressed concern that he needed to catch up with the times in terms of technological expertise. As a result, he has resolved to improve her abilities.

Objective 2:

"Do the heads of these institutions think they have the hardware and software to use technology in the classroom effectively?"

Table 2: Perspectives from educational administrators on the technical framework needed to support technology implementation.

Questions	**Have expressed a viewpoint**	**%**	**Not Expressed Any Views**	**%**
Institutions are well-equipped and arranged to make effective use of technological resources.	12	80	3	20
Due to a lack of resources, the organization's technical infrastructure needs to be improved.	9	60	6	40
An attempt is being made to improve the technological infrastructure to an acceptable level.	7	46.7	8	53.3

Table 2 shows that 80 percent of superintendents believe their institutes need more technical infrastructure and configuration. Sixty percent of respondents said inadequate funding has led to inadequate technological infrastructure and a lackluster technical setup in their organization. About half (47%) of respondents agreed that reasonable faith attempts were made to upgrade organizations' technology infrastructure and technical setup.

One participant voiced concern that schools' existing technical infrastructure needs to be fit for technological instruction and implementation.

Another participant expressed that, despite being in the twenty-first century, many schools continue to have connectivity issues with the internet and that, given the current state of infrastructure, technological advancements are just not viable.

Objective 3:

"Do educational institutions have the necessary technical personnel to handle technological upkeep?"

Table 3: Perspectives of educational administrators on the availability of technical personnel for the handling of technological issues

Questions	**Have expressed a viewpoint**	**%**	**Not Expressed Any Views**	**%**
Access to Qualified Technical Personnel	15	100	-	-
Expert guidance from IT professors for fixing technological problems	7	46.7	8	53.3
Technical problems are being solved with the aid of students.	3	20	12	80
The practice of contracting out for technical tasks like equipment repair and problem-solving.	10	66.7	5	33.3

One hundred percent of institutional administrators agree (see Table 3) that there need to be more technical employees at institutions who would address technical difficulties. Another 66.7% have reported outsourcing the maintenance and repair of technological equipment. Almost half (46.7%) of polled institutional heads said they consult a computer instructor when facing technological difficulties. Twenty percent of those surveyed said they sometimes seek student assistance with technological issues.

A participant said that to address technical concerns, and they would have to pay for the services of an outside party.

Another participant said that, due to a shortage of technical personnel, they sometimes rely on the assistance of computer professors. If the problem cannot be fixed internally, they will hire a service to keep the technology running smoothly.

Objective 4:

"How comfortable are the administrators, and how much do they dread technology?"

Table 4: Concerns about and thoughts on making effective use of technology among institutional administrators

Questions	**Have expressed a viewpoint**	**%**	**Not Expressed Any Views**	**%**

The absence of technological apprehension among administrators.	12	80	3	20
The intelligent use of technology by administrators.	13	86.7	2	13.3
Educating and training administrators to overcome resistance to new technologies is a priority.	5	33.3	10	66.7
Help-seeking from administrators in the face of technological difficulties.	4	26.7	11	73.3
Technology needs to be manageable if used and used correctly.	4	26.7	11	73.3
The rapid pace at which technology is progressing causes worry.	1	6.7	14	93.3
Teachers and students must make the most of their access to and use of technological resources.	1	6.7	14	93.3

Table 4 shows that eighty percent of institutional leaders believe they have the self-motivation to use technology in their institutions effectively. Eighty-seven percent said they are very effective when using technology. One-third of those surveyed believed they would benefit from taking a course related to technology. Twenty-seven percent of respondents felt that technology was nothing to fear when used correctly.

One participant reported being completely comfortable with all aspects of technology, and they regularly keep up with technological changes and work to better themselves in this area. While they may have hesitated to embrace technology, the simplicity they can now do once-impossible activities has convinced them otherwise.

Another participant reported feeling completely comfortable with and adept at using technological tools. She maintains that it is impossible to escape the pervasive presence of technology in modern life.

Objective 5:

"Is there evidence that teachers at the institutions where the administrators participated can effectively use and integrate technology into their lessons?"

Table 5: The degree to which educators can successfully implement and use technology in the classroom

Questions	**Have expressed a viewpoint**	**%**	**Not Expressed Any Views**	**%**
Successful use of technology in the classroom is possible for educators.	7	46.7	8	53.3
Only around half of classroom instructors are good at	6	40	9	60

incorporating technology into their lessons.				
To better use technology in the classroom, educators should get in-service training.	3	20	12	80
The average age of instructors is high, contributing to their technological incompetence.	2	13.3	13	86.7
The lack of infrastructure prevents teachers from using technology in the classroom.	5	33.3	10	66.7

Table 5 shows that most institutional administrators believe instructors need to use technology more effectively in their lessons. While 53.3% of respondents did not provide feedback on this topic, 46.7% said that instructors successfully utilize technology and integrate it into the classroom. There needs to be more in-service training and courses available for teachers, according to 33.3% of school administrators. Twenty percent of institutional administrators have complained that instructors lack the resources to incorporate technology into their lessons effectively.

A participant believes that some of their instructors are adept at using technology and successfully integrating it with their pupils. However, some instructors avoid, if not actively oppose, the use of technology.

Another participant explained the substantial deficiencies in the use of technology and its integration into the classroom. However, these deficiencies are due to a need for more technical equipment, processes, and infrastructure rather than a shortage of instructors.

Discussion

Information and communication technologies have been emphasized in recent studies to improve educational outcomes. This study sheds light on how institutional leaders might better use technology. Results from the research above were compared to those from similar investigations and linked to other relevant literature. Most institution administrators (73%) are self-motivated, well-informed, and technologically proficient. Another 40% keep up with technology, eagerly learn new skills, and argue that it has become an indispensable part of our lives.

In their research, Male and Burden (2013) highlight the value of IT to institutions and the inseparability of pedagogy and IT in the modern world. The authors agree that when this kind of integration and motivation occurs in the classroom, everyone from instructors to students to institutional officials is immersed in a culture of learning about and using technology. According to many sources (Passey, 2006; Afshari et al., 2009), According to Helvac (2008), the favorable sentiments shown by institutional managers regarding technology prove the validity of the study's findings.

Eighty percent of institutional leaders believe they have the drive to implement technology effectively. The study found that 80% of institutional administrators believe their institutions' technology infrastructure and setup are inadequate and that an additional 66.7% report contracting out the upkeep and repair of their technological assets. However, it is anticipated that institutional administrators would use technology, facilitate students' use of technology, and take the initiative to lead the execution of such initiatives. Governments in various countries have recently initiated new programs to ensure the widespread use of technology in institutions in response to evidence of technology's beneficial effects on student achievement. The United States stands out as a leading example, investing $8

billion in technological integration in 2003-2004 (Quality Education Data, 2004). This may not be a fair comparison, but it is consistent with what I heard from all the school officials I interviewed: that institutional funding needs to be improved. In addition, institutional administrators highlighted the challenges of independently collecting cash and expressed financial anguish due to the Ministry of Education's low budget.

Another finding is that most participating institutional administrators agree that instructors must gain the skills to use and integrate technology into the classroom setting effectively. Older educators, in particular, have been singled out for having a more challenging time incorporating technology into their lessons. Even though many respondents said that classroom instructors needed no more education beyond their first certification, educators who have a more favorable attitude toward technology tend to be those who are themselves well-versed in its uses and benefits (Cüre & Zdener, 2008). Based on the research of Thomas (1999), "the people who make decisions about policies and finances in institutions have little or no training in educational technology and few resources to make informed decisions." Therefore, there has to be a baseline expectation of technological literacy among institutional administrators.

According to Yu and Prince (2016), the ability of institutional administrators to provide technological leadership is crucial to the smooth implementation of educational technology. ISTE Administrator Standards were developed as a result. The researchers found that prospective institutional administrators were more likely to report a need for professional development in the exploitation of technology to achieve the criteria than to report feeling competent in doing so now. These results are consistent with a survey of educational leaders that found 73% of administrators said that instructors struggled with adopting and using technology in the classroom.

Conclusion

The research looks at how ICTs may be used to boost learning outcomes in the classroom. 73% of administrators are found to be self-motivated, well-informed, and technologically adept, while 40% maintain a commitment to staying current technologically and expanding their skill sets. According to the findings, educational leaders will embrace technology, help pupils use it effectively, and spearhead its implementation. The favorable impacts of technology on academic performance have prompted governments in several countries to launch new initiatives to encourage the broad use of technology in schools. When doing scientific research, interviews are an invaluable technique for eliciting and understanding the perspectives of study participants. Technology's prospective and far-reaching effect on education planning and administration includes improving teaching methods, increasing student participation, streamlining administrative procedures, and promoting diversity and inclusion. Thoughtful consideration is required when integrating new technologies since issues like digital equality and data privacy must be addressed. The results provide insight into how teachers, administrators, and legislators may best adapt to the changing nature of education in the digital era. The education system can better educate pupils for a complex, interdependent world if it adopts technology-driven tactics and new methods.

****

References

Coates, H., James, R., & Baldwin, G. (2005). A critical examination of the effects of learning management systems on university teaching and learning. Tertiary Education and Management, 11(1), 19–36. https://doi.org/10.1080/13583883.2005.9967137

Fu, J. S. (n.d.). ICT in Education: A Critical Literature Review and Its Implications.
Gao, Y., Zeng, G., Wang, Y., Khan, A. A., & Wang, X. (2022). Exploring Educational Planning, Teacher Beliefs, and Teacher Practices During the Pandemic: A Study of Science and Technology-Based Universities in China. Frontiers in Psychology, 13, 903244. https://doi.org/10.3389/fpsyg.2022.903244
Gülbahar, Y. (2007). Technology planning: A roadmap to successful technology integration in schools. Computers & Education, 49(4), 943–956. https://doi.org/10.1016/j.compedu.2005.12.002
Rogers, P. L. (2000). Barriers to Adopting Emerging Technologies in Education. Journal of Educational Computing Research, 22(4), 455–472. https://doi.org/10.2190/4UJE-B6VW-A30N-MCE5
Afshari, M., Bakar, K. A., Luan, W. S., Samah, B. A., & Fooi, F. S. (2009). Technology and school leadership. Technology, Pedagogy, and Education, 18(2), 235–248. doi:10.1080/14759390902992527
Cüre, F. & Özdener, N. (2008). Ögretmenlerin Bilgi ve İletisim Teknolojileri Uygulama Basarıları ve BİT Yönelik Tutumları, Hacettepe University Journal of Education, 34, 41-53.
Graham, C. R. (2016). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), The handbook of blended learning: Global perspectives, local designs (pp. 17-30). Wiley.
Gürsel, M. (2006). Eğitimde Yönetim ve Sisteme İliskin Çesitlemeler, Eğitim Kitabevi Yayınları No:15.
Helvacı, A. M. (2008). Okul Yöneticilerinin Teknolojiye Karşı Tutumlarının İncelenmesi (Uşak İli Örneği). Ankara Universitesi Egitim Bilimleri Fakultesi Dergisi, 41(1), 115–133. doi:10.1501/egifak_0000000200
Kent, N. and Facer, K. 2004., Different worlds? A comparison of young people's home and school ICT use. Journal of Computer Assisted Learning, vol. 20, pp.440–455.
Kimmons, R., Carpenter, J., & Veletsianos, G. (2017). Teacher professionalization in the age of social networking sites: Identifying significant tensions and their underlying beliefs. Learning, Media, and Technology, 42(4), 511–528.
McGowan, T. M., & Gunter, G. A. (2017). E-textbooks in higher education: Nearing the end or just the beginning? Techtrends, 61(3), 246-250.
McMahon, M., Gardner, P., & Hendrick, K. (2017). The data analytics process in higher education: A case study approach to building a data analytics program. Educational Technology Research and Development, 65(3), 661–688.
Passey, D. (2006). Technology enhancing learning: Analysing uses of information and communication technologies by primary and secondary school pupils with learning frameworks. Curriculum Journal, 17(2), 139–166. doi:10.1080/09585170600792761
Quality Education Data (2004). Technology purchasing forecast, 2003-2004. Denver, CO: Scholastic, Inc.
Sung, Y. T., Chang, K. E., & Liu, T. C. (2016). Integrating mobile devices with teaching and learning affects students' learning performance: A meta-analysis and research synthesis. Computers & Education, 94, 252-275.
Thomas, W. R. (1999). Educational Technology: Are School Administrators Ready for It?
Warschauer, M. (2014). Learning in the Cloud: How (and Why) to Transform Schools with Digital Media. Teachers College Press.
Weert, T. V. and Tatnall, A., 2005. Information and Communication Technologies and Real-Life Learning: New Education for the New Knowledge Society, Springer, New York.
Yu, C., & Prince, D. L. (2016). Aspiring School Administrators' Perceived Ability to Meet Technology Standards and Technological Needs for Professional Development. Journal of Research on Technology in Education, 48(4), 239–257.