



## Digital Leadership in Educational Institutions during the COVID-19 Pandemic

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Article Information	ABSTRACT
<i>Received:</i> 30.09.2021	<p>The COVID-19 pandemic has been an important opportunity for the education sector to test itself in different conditions. In this process, many countries affected by the pandemic have integrated their technology into all levels of education. Education administrators and teachers played important roles such as improving their technological literacy skills and being a role model for their students. The concept of digital leadership, as one of these theories, is a leadership model used in response to the leadership situation that emerges with the digital transformation, which is deemed necessary in the basic sectors of the information society. Leadership skills need to be developed in order to improve the corporate culture by utilizing the power of digital technologies in education. In this context, digital leadership in education becomes effective. As a crisis, the COVID 19 pandemic has posed a threat to existing organizational structures and forced these structures to transform and overhaul. In terms of the educational institutions, the responsibility of digital leaders are increased in terms of organizational processes during the pandemic and all the rest of it. It can be suggested that educational processes will not continue as before after the pandemic. While the digital leadership skills of school principals contribute to the creation of digital education environments for teachers, the continuous development and improvement of school management processes create a more sustainable culture of change. To sum up, leaders who digitize the learning culture with their digital leadership roles and skills can make significant contributions to the fulfillment of digital transformation in educational institutions.</p> <p><b>Keywords:</b> COVID-19 pandemic, digital leadership, educational institutions</p>
<i>Accepted:</i> 02.08.2022	
<i>Online First:</i> 03.08.2022	
<i>Published:</i> 31.10.2023	
doi: 10.16986/HUJE.2022.463	Article Type: Review Article

**Citation Information:** Neyişçi, N., & Sarı, B. (2023). Digital leadership in educational institutions during the COVID-19 pandemic. *Hacettepe University Journal of Education*, 38(4), 516-523. doi: 10.16986/HUJE.2022.463

### 1. INTRODUCTION

Since leadership is a concept that has been researched even in ancient times and attracted attention in almost every period, it can be said that there is a leadership theory developed in accordance with every different situation (Erçetin et al., 2021a; Çelebi, 2019). The concept of digital leadership, as one of these theories, is a leadership model used in response to the leadership situation that emerges with the digital transformation, which is deemed necessary in the basic sectors of the information society (Wilson III et al., 2020). It was developed within the period of "Leadership 4.0", which is one of the new leadership approaches. It is a concept that has been the subject of research for the last ten years and still needs to be studied (Özmen et al., 2020). It is seen as an indispensable element for corporate success in the 21st century (Şahin et al., 2020).

Although there is no consensus about the definition of digital leadership in the literature, as it is a new model (Çelebi, 2021), there are different explanations of the concept. Digital leadership is defined by El Sawy et al. (2016) as "doing the right things for the strategic success of digitalization", by Mihardjo and Sasmoko (2020) as "a combination of digital competence and digital culture", and by Qualman (2012) as "adapting to the digital age, inspiring change and inspiration". Zhu (2015), on the other hand, defines digital leadership with five different characteristics: "idea leadership", "creative leadership", "global visionary leadership", "curious leadership" and "wise leadership". As a result of the study by Ordu and Nayır (2021), in which studies on digital leadership were examined, this leadership was defined as "creating an innovative vision by using technology effectively in managerial processes in order to create a sustainable culture of change in the organization".

The concepts of digital leadership and digital leader have been used in researches to mean both diverse or same situations. Although these two concepts converge at some points, there is a necessity of making a distinction between them. While in digital

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leadership the leader should adapt to the digital age elements and use digitalization in a beneficial way for his own interests and purposes in the process of digitalization or digital transformation, the digital leader establishes the leadership and priorities on digitalization by establishing a digital management (Çelebi, 2021). Digital leader is defined by Sheninger (2014) as “...establishing direction, influencing others, initiating sustainable change by accessing information, establishing relationships to foresee the changes that will form the basis of success in the future...”, by Westerman et al. (2014) as “an individual who mobilizes the organization through digital awareness and influence power”, by Mert (2021) as “a participatory and determined leader who has a global perspective, has digital literacy, can work with different cultures and age groups, is open to innovation and change, attaches importance to cooperation”.

Digital leaders can move their organizations into the future by effectively managing the digital transformation process. What is expected from a digital leader is to maintain the existing structure with traditional leadership characteristics, on the other hand, to provide the necessary motivation and harmony by managing digital transformation. It is the digital leader who will convince the individuals in the organization to digital transformation, create a culture of technology use in the institution, keep the communication, learning and development channels constantly open and guide the individuals of the organization to use them actively. As the digital transformation includes different benefits in every sector, digital languages will coordinate this transformation by adapting to innovation and change and move the organization forward in the competitive environment (Artüz, 2020).

### 1.1. The Characteristics and Dimensions of Digital Leadership

Digital skills are important in digital leadership. In the figure 1, digital skills are summarized by the International Telecommunication Union (ITU) as three types as basic, intermediate and advanced (ITU, 2018). These digital skills of the digital leader are expected to be at a good level. For example, digital leaders should have the ability to use social media purposefully and in a planned manner, and even make this skill one of their main jobs (Mert, 2021).

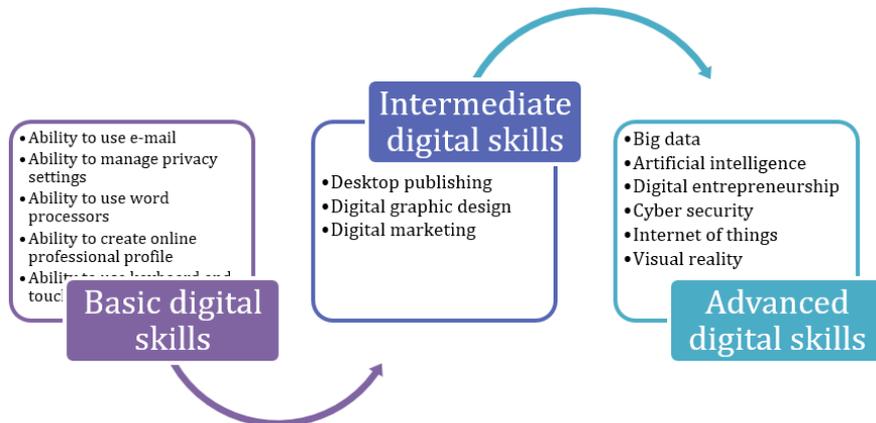


Figure 1. The digital skills

Yusof et al. (2019) defines basic behaviors related to digital leadership as: i) organizing virtual meetings, ii) conducting virtual discussions, iii) sharing information in virtual environment, iv) creating a digital learning space, v) encouraging development in virtual environment, vi) online file sharing, vii) virtual teaching and learning supervision, viii) virtual monitoring of employee performance, and ix) virtual promotion of the business goal. According to Qualman (2012), the habits that the digital leader should adopt are as follows:

- Simplify: Success is the result of simplification and focus.
- Integrity and self-honesty: acknowledging inner passion.
- Take action: Nothing happens without action.
- Setting a roadmap: Goals and visions are needed for success.
- Being with people: Success does not happen alone.

Industry 4.0 refers to the digitized industry and is defined as the digitization of all managerial processes of the organization. In this context, the transformation that takes place emphasizes a change that occurs with the use of technological elements. With Industry 4.0, digitalization has come to the fore and leaders who can manage digital transformation are needed at this stage (Karakose et al., 2021) Today, business processes of institutions are responsible for providing coordination between digital elements and employees, supporting data analysis, performance evaluation and improvement processes.. Large companies now consider it very important to invest in digital leaders (Mert, 2021). Based on this need, the characteristics required for an effective digital leadership are shown in Table 1 (Abbatiello et al., 2017).

Table 1.  
*Leadership Skills Necessary to Succeed in the Digital World*

Cognitive Abilities	Behavioral Abilities	Emotional Abilities
Conceptualizing possibilities in the virtual world	Adapting to changing domains of power and influence	Ability to tolerate risk and uncertainty
Coping with ever-growing cognitive complexity	Collaboration with different teams	Flexibility in everchanging conditions
Thinking different and new ways	Dignification the contribution of new business partners and interest groups	Courage to change work processes
Ability to make practical decisions without all the information	Learning from failures and being able to try again with high energy and motivation	Directing change and having leadership self-confidence

According to Ahlquist (2014), a digital leader must have the following ten competencies: (1) awareness of emerging technology tools, (2) ability to analyze digital content (differentiation of misconception and misinterpreted information), (3) online awareness and digital profile, (4) creation of personal virtual boundaries, (5) professional, strategic and career-oriented online brand development, (6) creating a personal learning network, (7) integrating digital technologies with leadership, (8) cyber conflict resolution and mediation, (9) constructive digital decision-making processes, (10) using social media for social benefits.

Digital leadership is not a leadership style to be described with the skills and competencies of a single field. It is influenced by more than one discipline. In this respect, digital leadership has a multidimensional structure. According to the study by Şahin et al. (2020), the sub-dimensions of digital leadership are: being ready for change and being innovative, planning, implementation and control skills, supporting and inspiring the development of subordinates, the dominance of the current system, computer and organization, the knowledge and dominance of many subjects, to carry out and implement complex mental operations.

### 1.2. Digital Leadership in Education

Technological development and digitalization, as in all fields, have brought about changes in leadership perception in education (Yusof et al., 2019). Leadership skills need to be developed in order to improve the corporate culture by utilizing the power of digital technologies in education. In this context, digital leadership in education becomes effective. There are a number of concepts that digital leadership includes in education, such as communication, public relations, brand design and identity, student participation and learning, professional growth and development, redesign of learning domain and environments, and opportunities (Sheninger, 2014). Digital leaders can capture the digital age in education by supporting educational processes in the context of these features. It has become important that today's school leaders try to fill the gaps in their technological knowledge and skills, as well as providing direction and guidance in order to lead digital development and spread the developments in the learning environment.

Today, as a leader in education, the use of information technologies and digital leadership skills of school administrators have become more important. Standards have been developed to measure the technological leadership requirements that school administrators should have. As shown in the Figure 2, the National Educational Technology Standards for Administrators (NETS-A), developed by the International Educational Technology Society (ISTE) in the USA, includes six dimensions (ISTE, 2009). These standards are also considered as digital leadership standards (Şahin et al., 2020). This standard can guide school administrators in improving digital teaching. Here, it can be seen that digital leadership is considered as five dimensions: visionary leadership, digital age learning culture, excellence in professional practice, systematic development and digital citizenship. In this context, it is emphasized that leaders should allocate time and continuous training to teacher competencies and contribute to their development in order to minimize the problems.



Figure 2. Dimensions of ISTE executive standards

In a world experiencing rapid change and increase in information and communications technology (ICT) and computational thinking (CT) skills in education (Bati, 2022), it can be foreseen that change is inevitable in the education sector as an organizational structure and that digital leaders can present this change. Education administrators have to lead the education community in a rapidly evolving and changing digital environment (Jones-Lester, 2019). At the same time, they should ensure that technology is integrated into educational processes to support digital age teaching (Zhong, 2016). As a digital leader, the education manager must harness the power of digitalization to create an appropriate, transparent, meaningful and inspiring corporate culture. In addition, digital leadership has been the representative of an influential change in the management and structuring of education for centuries with changes such as open source technologies, mobile devices and personalization, and the ubiquity of connections (Sheninger, 2014). The digital leader is expected to make the change by using digital devices and tools in education management, and in this transformation, he should attempt to mobilize, implement and assimilate the use of tools as a teaching and learning tool through strategic planning in line with the vision of the school (ISTE, 2021).

### **1.3. Digital Leadership in the COVID-19 Pandemic**

The COVID-19 pandemic should be considered as a crisis for countries due to its global impact. The COVID-19 outbreak is expressed as a complete crisis situation because it contains all the general and characteristic features of crises (Sarı & Sarı, 2020). The unpredictability of the pandemic and the unpreparedness increase the threat as a crisis. The current pandemic has brought about great changes in the living conditions of both individuals and organizations (Potas et al., 2022). So much so that it has become an event that can be referenced internationally with its before and after (Arslan & Karagül, 2020).

As a crisis, the COVID 19 pandemic has posed a threat to existing organizational structures and forced these structures to transform and overhaul. One of these transformations and changes caused by the crisis of the COVID 19 pandemic is digitalization. With the effect of digitalization, digital leadership skills come to the fore in crisis management. Thanks to the change and innovation dimensions of digital leaders, organizations can adapt faster to the sudden and unexpected change environment created by pandemic. With rapid adaptation, organizations can minimize the damage caused by the COVID-19 crisis and find the convenience to seize the opportunities created by the pandemic. The crisis strategy of digital leaders, which is open to change and innovation, can also foresee the threats in the changing competitive conditions during the COVID-19 and ensure that the necessary measures are taken in advance. This effective crisis management will contribute to organizations getting out of the negative environment faster and returning to normal in a short time (Karaköse, 2007).

One of the digital leadership dimensions is supporting and inspiring the development of subordinates. Ensuring the participation of employees in decision-making processes and increasing their motivation during the COVID-19 process facilitates effective progress in crisis management. As a matter of fact, during the pandemic process, various organizations have planned different trainings to support their employees' digital skills. In addition, awards were made to inspire and create motivation. For example, the Ministry of National Education awarded all its teachers with certificates of achievement for their work during the pandemic period, relatively in the post-pandemic period (T.R. Ministry of National Education, 2022).

The planning, implementation and control skills of digital leaders are of great importance in crisis management. In the planning of crisis management, the activities of the organization should be re-evaluated by analyzing the risks and threats. The planning should be put into practice by preparing the necessary distribution of duties and the process should be supervised together with preventive measures. In this way, it is possible to get out of the process quickly and turn the crises into opportunities (Tankut Tuğcu, 2013). In this context, together with digital leadership skills, organizations will be able to get out of this crisis stronger as soon as possible by minimizing the damage with the well-planned management by analyzing the risks and threats arising from the COVID-19 pandemic crisis.

Organizations can foresee risks and threats that have the potential to turn into a crisis, and plan accordingly by taking the necessary measures, with the leader's ability to master the system, computer and organization, which is one of the digital leadership dimensions. The digital leader is expected to have knowledge and dominance on many different subjects. With this dimension, digital leadership can provide the opportunity to get out of the depressed situation and the chaos environment that the organization is in during the crisis process such as COVID-19. Management control can be lost as a result of weakening of authority in a chaos environment. If this situation is not taken under control, it can lead the organization to a dead end. Especially in such cases, people who have knowledge and dominance on many subjects are interested in the organization. Leaders with these characteristics can gain authority by taking control (Karaköse, 2007).

## **2. DISCUSSION AND RECOMMENDATIONS**

The COVID-19 pandemic has been an important opportunity for the education sector to test itself in different conditions. In this process, many countries have integrated their technology into all levels of education. Education administrators and teachers played important roles such as improving their technological literacy skills and being a role model for their students. Crisis and crisis management have become more important in education management with the COVID-19 pandemic (Sarı & Sarı, 2020). COVID-19 pandemic is a social crisis besides being a health crisis and linear approaches are not sufficient to overcome (Açıkalın & Erçetin, 2022). As a crisis, the COVID-19 outbreak has caused the education sector to face an unprecedented serious problem, as in all other sectors (Erçetin et al., 2021b). With the onset of the pandemic, many countries had to suspend education or stop

face-to-face education. During the pandemic, existing infrastructures were developed and education was tried to be continued with distance education. On the other hand, it is seen that a rapid transition can be made in the distance education process with the existing infrastructure of educational institutions and the development of infrastructure deficiencies in a short time (Erçetin et al., 2020). After the pandemic, it has become important for educational institutions to reconsider their current strategies and develop new missions and visions. It has also been seen that education can be carried out without a place, with the concept of "delocalization" that entered our lives with the pandemic. This situation shows that education and training processes can be carried out with both face-to-face and distance education processes (Dikmen & Bahçeci, 2020).

In terms of the educational institutions, the responsibility of digital leaders are increased in terms of organizational processes during the pandemic and all the rest of it. It can be suggested that educational processes will not continue as before after the pandemic. In addition, it is predicted that many other viruses may be encountered even if the COVID-19 pandemic ends. This reveals that the practices carried out in the pandemic will not be temporary (Erkut, 2020). Ongoing the use of digital platforms in all educational processes requires improving the digital skills of educators and students. The efficient, active and effective use of digital platforms is critical in the execution of educational processes. For this reason, digital skills and competencies should be emphasized in the education programs used in the training and development of educators (Özer & Suna, 2020). It is considered that digital platforms will continue to be used as a complement and supporter of face-to-face education after the pandemic. It is obvious that especially online meeting applications will serve institutions in cases where there will be difficulties of individuals in face-to-face meetings. In the pandemic process, which has emerged unexpectedly and whose effects are still ongoing, maintaining the continuity of education, adapting to new developments and turning the difficulties that arise in the rapid change into opportunities will become evident with the roles of digital leaders and their contributions to the educational organizations (Keleş et al., 2020).

The COVID-19 pandemic has been an important opportunity for the education sector to test itself in different conditions. In this process, many countries affected by the pandemic have integrated their technology into all levels of education. Education administrators and teachers played important roles such as improving their technological literacy skills and being a role model for their students. The activities that digital leaders can also benefit from in order to manage the environment in a healthy way during and after the pandemic can be listed as follows (Balci, 2020):

- To plan trainings that support the digital literacy skills of the existing workforce in a way that they can meet the technological developments.
- To plan the measures to be taken in similar crisis situations that may be encountered.
- To implement studies that can ensure the necessary digital infrastructure is available within the organization.
- To make continuous assessments by following all educational and administrative processes
- To develop preventive measures for possible situations in the light of assessments
- To carry out necessary activities in cases such as lack of motivation and morale
- To make emotional and social support plans for the possible boredom and burnout situations in employees.

Accordingly, in the post-pandemic era, leaders seem to be of critical importance in creating a new organization's digital culture. Today, the role of the digital leader has increased more than ever before. Because without them, digital transformation cannot be completed smoothly. In an era of pandemic, the more technical expertise the corporate leader has, the more "powerfully" an organization can respond to emerging Digital Reality (Antonopoulou et al., 2021). In order to be successful in today's changing world and to continue to compete in educational institutions, digital leadership can be the savior of educational organizations by making good use of digital opportunities. Digital leadership emphasizes management that can support the latest requirements for digital transformation by motivating, coordinating and evaluating the efforts of all stakeholders in educational institutions to improve educational processes, especially during the COVID-19 pandemic. While the digital leadership skills of school principals contribute to the creation of digital education environments for teachers, the continuous development and improvement of school management processes creates a more sustainable culture of change. To sum up, leaders who digitize the learning culture with their digital leadership roles and skills can make significant contributions to the fulfillment of digital transformation in educational institutions. The presence of digital leadership in education management processes had a positive effect on teachers' technology integration during the pandemic period

Although the current study provides a discussion on the perception of digital leadership in educational organizations in the COVID-19 pandemic, it is necessary to present some limitations. Apart from this study, which was carried out with a wide and up-to-date literature review, it can be recommended to conduct in-depth application studies using various methods and involving different stakeholders in order to evaluate digital leadership outputs in education management more comprehensively during and after the COVID-19 pandemic.

### **Research and Publication Ethics Statement**

Since this research is a review type article, it does not require an ethics committee decision.

### Contribution Rates of Authors to the Article

All authors contributed equally to the preparation, research, writing and publication stages of the article.

### Support Statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### Statement of Interest

All authors state that there is no financial / personal interest or belief that could affect objectivity. None of the authors had any conflicts of interest.

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