

Review article

LEADERSHIP IN EDUCATION IN THE DIGITAL AGE

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Abstract. *The goal of this paper is to analyze and explain the concept of leadership in education and the two most common models of leadership in education – instructional and transformational leadership. In addition to an overview of theoretical considerations and results of empirical research, there is a special focus on the role and competencies of a leader as an inseparable link in knowledge and skills transfer that supports and improves teaching, learning and management in education from which this is expected to become a digital leader in the education paradigm powered by digital technology. Digital leadership is seen as an expression of management that can support the current requirements of digital transformation. Numerous studies have shown that quality leadership significantly benefits both the educational institution as a whole and student performance. This paper shows how the changes brought about by the digital age are affecting educational leaders and what skills educational leaders need to have in order to be called digital leaders. Future digital leadership studies could focus on developing appropriate leadership programs that encourage and motivate all staff in educational institutions to develop digital skills. Furthermore, it would be useful to investigate empirically to what extent digital leadership is present in educational institutions in Serbia, as has already happened in other countries, and to what extent leaders in educational institutions are digitally trained. Some future studies could also identify the relationship between digital competencies and the type of leadership that can contribute to the effective digital transformation of an educational institution.*

Key words: *leadership in education, educational leaders, digital technology, digital age, digital competences*

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1. INTRODUCTION

Education that relies on the development and use of digital technology has become imperative for survival in the time we live in. A postmodern society based on science and technology requires the acquisition of new knowledge, skills and competencies as an instrument of sustainability at all levels (Todorov, et al., 2020). Digital technology has irreversibly changed the way in which all organizations function, including educational institutions. Digitization is transforming educational institutions, creating new challenges that must be addressed by all participants in the education process. In order to provide the best possible education for students, the need for educational institutions to have effective leadership is recognized.

The role of the leader is considered a key parameter in educational institutions. The mission of leaders is to guide individuals in the right direction. In this way, teachers and students can adequately meet their educational objectives, respond better to challenges and overcome obstacles more easily (Antonopoulou, et al., 2021).

In educational reforms, leadership is not only recognized as a key parameter, but as one of the best means for introducing and encouraging other changes in educational institutions. As a result of the digital transition of educational institutions and the introduction of digital technology, the demands placed upon leaders in education have changed significantly. The new demands that appear before the leaders refer to the introduction of innovation in educational institutions, i.e., the use of digital technology, which requires certain competencies. The term digital leader appears, without whom the process of digital transition of educational institutions cannot be successful.

Educational leaders and the academic community at all levels should have digital skills (Mango, 2018). In the current age of the crises pandemic, the more digital skills a leader has, the more an academic institution can adapt to the new digital reality (Antonopoulou et al., 2021). The main goal of this paper is to analyze and explain the concept of leadership in education as well as the two most common models of leadership in education - instructional and transformational leadership. Along with an overview of theoretical considerations and results of empirical research, there is a special focus on the role and competencies of a leader who is expected to become a digital leader in the paradigm of education supported by digital technology. Recommendations for future research are given in the final part of the paper.

2. THE IMPORTANCE OF LEADERSHIP IN EDUCATION

All definitions of leadership refer to the relationship between the leader and the followers, the purpose of which is to achieve a common goal. According to Vukotić, leadership is the ability to positively influence people and systems to achieve certain results. A leader has the ability to create such goals that can mobilize associates to voluntarily invest their maximum effort in their realization (Vukotić, 2009). Mirčetić defines leadership as a process that represents the mutual relationship between leaders and followers in which the leader influences the group to undertake certain activities in order to achieve a common goal (Mirčetić, 2018). Northouse believes leadership to be a process which influences a certain group of people and assumes the achievement of a common goal (Northouse, 2016).

Leadership is seen as the main correlate of organizational success (Yukl, 2008). Leadership in education is associated with a theory that has a clearly specified path to achieving the goal, through the monitoring and implementation of new teaching methods,

the introduction of innovation in the teaching practice, expanded forms of teaching, project-based and interactive learning and inclusive learning, including an important element of connecting the path-goal theory with the leader - the teacher and the follower - the student as the encouragement and motivation of the teaching staff to cooperate and transfer pedagogical and professional knowledge (Ninković, 2017).

Many authors agree that the effects of educational leadership on teaching are significant and that the quality of leadership greatly affects the school in general, teacher's attitudes as well as students' achievements. Leadership is the second most important factor in schools that affects students' achievement, while teachers are the first (Leithwood, Hallinger, & Heck, 2010; Lesotte & Snyder, 2011; Shatzer, et al., 2014; Bush, 2017; Ualesi, Yvonne, & Ward, 2018; Antonopoulou et al., 2021). School leaders improve students' learning achievements through a strong impact on teacher motivation and working conditions in their schools (Robinson, Lloyd, & Rowe, 2008) and influence the socio-emotional competencies of students and teachers (Jennings & Greenberg, 2009). Successful school principals affect increase in time that students spend learning (Branch, Hanushek, & Rivkin, 2013).

The new role of leaders becomes crucial for the improvement of students' achievements. Some examples of the important roles of leaders in education include the management of the curriculum, monitoring and evaluation of teachers, supporting professional development of teachers, creating collaborative learning environment and strategic resource management (Pont, Nushe, & Moorman, 2008). No one in the scientific and professional public is questioning the importance of leadership in education anymore. Leadership and learning are continuous processes that an individual carries out with influence on the group of individuals. In general, research supports that leadership contributes to students' school achievements through the development of a series of structural and organizational processes that define the capacity of the school to improve the teaching process (Hallinger & Heck, 2010). Adjusting the education system to the modern society needs leads to redefining of educational policy priorities. In the context of increasing the autonomy of the school from the aspect of finance, organization and curriculum, the quality of the school becomes to a greater extent conditioned by management, especially the school principals and their competencies (Peko, Mlinarević, & Gagger, 2009).

Defining leadership as a social phenomenon clearly implies that without effective management, there is no expected progress, both in the education system and in developing competencies and skills of the individuals themselves. The role of the new leaders is both creative and destructive, they support certain initiatives while fighting bureaucracy and recklessness, and essentially remove obstacles to progress (Todorov, et al., 2020).

3. MODELS OF LEADERSHIP IN EDUCATION

Instructional and transformational leadership are the two most common models of leadership in education (Robinson, Lloyd, & Rowe, 2008). The concept of instructional leadership was introduced within the correlate survey of the success of schools in the United States where the conclusion was that those schools whose principals improve teaching processes are more successful (Lezotte & Snyder, 2011). One way to describe the instructional leadership is as "Leadership for Learning" (Townsend & MacBeath, 2011); the second way is as "teaching leadership", which is considered one of the most important responsibilities of school executives (Moos, 2011). Three to four decades ago,

instructional leadership of principals focused on the professional development of teachers, without any special connection with student learning (Jarl, Blossing, & Andersson, 2017). Based on this, numerous studies have created a picture of a principal as a manager who guides the improvement processes. Successful instructional behavioral of principals refer to the selection of teachers, providing opportunities for their professional development and provision of appropriate resources (Ninković, 2017).

Of all the concepts of instructional leadership, Hallinger's Conceptual Framework which focuses on school teaching and learning is the most represented in the literature (Hallinger, 2003). Hallinger offered three main components of instructional leadership: defining the school mission, managing the instruction, and developing a positive learning climate. The main activities of pedagogical leaders are to formulate and communicate the goals, supervise the instruction process and encourage professional development of teachers. Successful pedagogical leaders allow teachers to become aware of the weaknesses of their practice and promote their professional development, thus consequently improving the quality of teaching and school learning (Hallinger, 2003). Teacher training and school program development contributes to better students' achievements (Grissom, Loeb, & Master, 2013).

We often encounter in the literature the synthesis between instructional and transformational leadership (Forssten, 2017). The central idea of transformational leadership is that leadership should be aimed towards transforming social reality. What is characteristic of transformational leadership is that this type of leadership does not only imply the followers' consent but involves the change of followers' beliefs, their needs and values, as well as raising followers to a higher motivational level. Leaders positively influence teacher motivation by establishing a connection with the school mission and personal priorities of teachers, where the teacher motivation is based on the awards (Yukl, 2008). The theory of transformational leadership starts from specific motivational assumptions where it is assumed that the leader understands what followers want and when, and what prevents them from meeting their desires (Bass & Riggio, 2006). The impact of transformational leadership on the success of an institution is reflected in the social identification of followers, the development of self-efficacy and collective efficiency of followers, as well as the alignment between the values and goals of the organization with personal values and goals (Yukl, 2008; Van Knippenberg & Sitkin, 2013).

The concept of transformational leadership that was studied most was developed by Bernard Bass. He states the following main aspects of transformational leadership: an idealized impact that is supposed to trigger strong emotions and the need for subordinates to identify themselves with the leader, inspirational motivation implies high expectations, and intellectual stimulation implies encouraging innovation of subordinates and individual appreciation of needs and abilities (Bass & Riggio, 2006).

Research so far have shown that transformational leadership is in a positive correlation with an innovative school climate, student academic achievement, teacher commitment, and school organizational values (Shatzer, et al., 2014; Josanov Vrgović & Pavlović, 2014; Ninković & Knežević Florić, 2016). Sebastian and Allensworth (2012) have concluded that the main mediators of the impact of transformational education leadership on the instruction and student learning are as follows: a professional learning group that involves groups of teachers who critically evaluate their own practice, in a reflexive, collaborative, inclusive and developmental manner (Stoll, et al., 2006), the quality of professional development programs, school climate and cooperation between family and school. The educational leader should

play the main role in developing and maintaining effective professional teacher development as well as to increase the involvement of parents in school activities.

By studying both educational leadership models – instructional and transformational leadership - certain similarities as well as differences are observed. Both models strive to:

- create a sense of common purpose,
- develop the high expectations climate and school cultures aimed at improving instruction and learning,
- assess and reward school staff,
- encourage intellectual stimulation and teacher professional development,
- visible modelling of schools' values (Leithwood & Sun, 2012).

The main differences between instructional and transformational leadership are:

- the top-down focus instead of bottom-up focus,
- focus on changes in the instruction process versus the focus on the changes in school culture,
- development of transactional (managerial) relationships between the school principal and teachers versus the development of transformational relationships (Hallinger, 2003).

Instructional leadership has more impact on the academic achievement of students than transformational leadership (Robinson et al., 2008). Transformational leadership lacks focus on instruction processes. There is a need to integrate these two educational leadership models, primarily due to the fact that certain transformational behaviors also significantly affect students' achievements at school (Shatzer et al, 2014).

4. DIGITAL LEADERSHIP

“Where technology was successfully used to teach, strong leadership was a key factor. Without leadership and sense of support for changes in the organization, inertia barriers can be significant” (Bates, 2000, p. 43).

The world of education is more and more challenging, especially in a digital age that requires school leaders to use digital technology in school administration and management (Hamzah et al., 2021). Digital transformation in education requires school principals and teachers to use digital technology to improve overall work. Leaders who want to implement digital leadership should identify the best approach for their followers to ensure effective participation of both teachers and students in the education process.

Educational institutions and their leaders face significant challenges arising from digital transformation (Hanelt, et al., 2020). Digital transformation has completely changed the previous ways of working. Organizations such as educational institutions must transform their activities in order to be effective in the Internet age (Antonopoulou, et al., 2021). Strong and disturbing changes related to digital transformation complicate leadership while at the same time require significant flexibility from it (Fernandez & Shaw, 2020; Ford, Ford, & Polin, 2021). On the one hand, the leaders need to know when and how to successfully implement new technologies, and on the other hand, they must take into account the insecure labor that fears the digital transformation due to automation, which could quickly change or even replace their jobs (Cascio & Montealegra, 2016).

Digitization is the driving force for future success, but traditional management styles do not properly explore the opportunities and challenges arising from digitization (Hensellek, 2020). In order to overcome the challenges caused by the digital transformation, the leaders

are forced to develop digital skills related to the ability to communicate effectively in the digital context (Narbon, 2016; Emmanuel & Emmanuel, 2018; Antonopoulou et al., 2021). The fact is that the leaders need digital skills in order to function in the digital age. Digital skills imply the knowledge, skills, attitudes, abilities and strategies necessary for the proper use of digital technology and with the aim of planned, flexible and safe improvement of the instruction and learning process and other activities related to the teaching profession in the online and offline environment (Ferrari, 2012).

Today, more than ever, there is the need for digital leaders that are seen as the representatives of a new leadership style because without them the digital transition process that is used in educational institutions could not be implemented smoothly. Digital leadership is seen as an expression of management that can support the latest requirements related to digital transformation by providing complete quality management, including motivation, coordination and evaluation of efforts of all stakeholders in improving instruction and learning (Damayanti & Mirfani, 2021). Digital leadership is a type of leadership that makes changes using digital tools in the field of education and management. This process of transformation requires leaders to intensify their efforts to mobilize, implement and absorb digital tools as a medium for teaching and learning through strategic planning aligned with the school vision (ISTE, 2021). Digital leadership is characterized by transformational management styles and use of digital technology (Hamzah, Nasir, & Wahab, 2021).

More recently, the importance of digital competencies of educational leaders has been understood, given the role that technology has in education. Digital competencies allow school leaders to perform their leadership functions more efficiently, such as analyzing lesson data, communicating feedback or presenting content related to the professional development of teachers (Gumus & Akcaoglu, 2013). In this sense, educational leaders are expected to be able to use technology in order to successfully implement everyday tasks.

Research on digital leadership has found that teachers agree that school principals as leaders, encourage the use of digital technologies in the curriculum, as well as leaders who actively express their attitudes towards purposes and needs related to the use of digital technologies, and actively use digital technologies in their work cause their teachers to increase the use of digital technologies in their pedagogical practice (Ottestad, 2013; Zhong, 2016; Norakmar, Noor, & Latif, 2016; Weber, Krehl, & Büttgen, 2022). They can also help to overcome traditional administrative weaknesses and time constraints and encourage learning outside the classroom (Cano & García, 2013) as well as improve students' academic achievements (Hamzah et al., 2021).

Digital leadership is fast-paced, hierarchical, and team-based with a strong focus on innovation. It is a focused and collaborative approach. Personal competence, leadership mentality and their ability to apply new methods and tools are critical skills for digital leaders (Oberer & Erkollar, 2018). "A digital leader should create an understandable and acceptable digital vision for employees. A meaningful digital vision is the key to good digital leadership" (Hensellek, 2020, p. 61). Digital transformation requires new and complementary leadership. In the context of digital transformation, skills such as introducing innovation, applying situational ways of thinking, creating conditions that reflect the digital maturity of the institution and networking, become very important for the management process (Sousa & Rocha, 2019). The digital maturity of an institution depends significantly on a clear digital strategy supported by leaders and on the ability of leaders to improve the skills of employees to facilitate the introduction of innovation in their practice.

The current leadership roles cannot fully respond to the challenges caused by digital transformation. Certain leadership roles are less relevant, while others may become more

important. Some existing roles can be enhanced with new behaviors and completely new roles can be added. Consequently, current studies seek to identify leadership roles that are appropriate in digital transformation (Antonopoulou, et al. 2021).

In a study by Weber et al. (2022), six different leadership roles were identified that adequately address the leadership challenges brought about by digital transformation. Each of these roles is characterized by specific leadership behaviors: digital pioneer, innovator, enabler, mentor, networker and manager. These roles are characterized by tasks such as identifying the need for change (digital pioneer), implementing innovative ideas (innovator), creating a collaborative and empowering work environment (enabler), coordinating organizational processes (manager), establishing confidential relationships with employees (mentor), and developing interdisciplinary networks inside and outside the organization (networker). Identified leadership roles in digital transformation can increase innovative work performance and knowledge sharing among employees, as well as to improve the digital maturity of the organization (Weber et al., 2022).

In his research, Promsri (2019) has identified the qualities that a digital leader should have and further used them to create a quality model of a digital leader for successful digital transformation. These are: digital knowledge and literacy, vision, employee understanding, agility, risk-taking and collaboration.

1. *Digital knowledge and literacy* – a digital leader has to understand the changing environment that affects the digital technology that represent the organization for digital transformation.
2. *Vision* – a digital leader must have a clear vision and purpose regarding digital transformation and convey that vision to all employees in the organization.
3. *Employee understanding* – a digital leader should take into account the needs of employees and changes that occur when undertaking digital transformation.
4. *Agility* – a digital leader must be agile, flexible and adaptable to cope with the rapidly changing environment of the digital world. Also, the digital leader needs to establish agility in the workplace for the digital transformation to be successful.
5. *Risk-taking* – a digital leader should look for new opportunities and accept the mistakes that happened during the new experiments done by the employees in the organization. A digital leader should create an experimental climate and encourage employees to experiment with new things even if they ultimately end in failure.
6. *Collaboration* – a digital leader should encourage employee and team collaboration to ensure that everyone strives to work together for digital transformation.

The International Society for Technology in Education (ISTE, 2021) issued a standard to guide leaders in their role as digital leaders. This standard serves as a working guide for all leaders in fostering digital instruction and learning. The ISTE standard provides five dimensions of digital leadership, namely visionary leadership, learning culture in the digital age, excellence in professional practice, systemic improvement and digital citizenship. ISTE gives leaders the right amount of time and training to improve competencies and ensure smooth implementation of digital technologies.

An effective form of leadership that optimally promotes digital innovation is transformational leadership. A transformational leadership leader aims to motivate followers, strives to meet their highest needs, and invests his full commitment (Antonopoulou, et al., 2021). Transformational leadership, which is associated with charisma and vision, appears to be the most appropriate model, because, by definition, it focuses on issues of change and transformation (Gellis, 2001).

5. CONCLUSION

Along with an overview of theoretical considerations and results of empirical research, in addition to the concept of leadership in education, this paper also presents a new style of leadership, digital leadership. Under the influence of the digital age, institutions are increasingly digitized and digital transformation is becoming the driving force for the future. Digital transformation is inevitable and necessary and represents a process that starts from the moment the educational institution gets the idea of introducing digital technologies and lasts until the moment of complete integration of digital technologies in all segments of the educational institution.

During the digital transformation, it is necessary to develop the institution's digital strategy. The institution's digital strategy should enable the administration, teachers and students to explore and introduce innovation and to develop competencies through digital transformation. As part of the digital strategy, the educational institution must find a way to improve the necessary skills of the employees in order to be able to take full advantage of the opportunities provided by digital technology. During the digital transformation, the traditional management styles cannot adequately respond to the opportunities and challenges caused by digitization. The leadership style that emerges at that moment is digital leadership. This paper sets a conceptual framework by examining the literature on digital leadership in education and the properties or roles that digital leaders should have.

Studies have shown that the digital leadership of school principals affects the digital practice of teachers, because by ensuring the professional development of teachers, the confidence of teachers to integrate digital technologies in instruction and learning increases, which therefore increases the effect of student learning. The current research expands the literature about leadership by identifying leadership roles that respond to educational leaders' challenges associated with digital transformation. It is essential to combine the existing leadership behaviors with new digital competencies in order to successfully manage the challenges arising from digital transformations.

Future studies on digital leadership could focus on designing appropriate leadership programs that will encourage and motivate all employees in educational institutions to develop digital skills. Moreover, it would be useful to empirically examine the extent to which digital leadership is present in educational institutions in Serbia, as has already been done in other countries, and to what extent leaders in educational institutions are digitally trained. Some future studies could also identify the relationship between digital competencies and the type of leadership that can contribute to the effective digital transformation of an educational institution.

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LIDERSTVO U OBRAZOVANJU U DIGITALNOM DOBU

Cilj ovog rada je da analizira i objasni pojam liderstva u obrazovanju. Poseban fokus je na ulozi i kompetencijama lidera kao neraskidivoj vezi transfera znanja i vještina, koji podržava i unapređuje nastavu, učenje i upravljanje u obrazovanju, a od koga se u paradigmi obrazovanja podržanoj digitalnim tehnologijama očekuje da postane digitalni lider. Brojna istraživanja su pokazala da kvalitet liderstva značajno doprinosi obrazovnoj instituciji u celini, kao i učeničkim obrazovnim ishodima. Digitalno liderstvo se posmatra kao izraz menadžmenta koji može da podrži najnovije zahteve vezane za digitalnu transformaciju. U radu je prikazano kako promene koje donosi digitalno doba utiču na obrazovne lidere i koje kompetencije obrazovni lideri moraju da imaju da bi se zvali digitalnim liderima.

Ključne reči: liderstvo u obrazovanju, obrazovni lideri, digitalne tehnologije, digitalno doba, digitalne kompetencije