

Theoretical and Practical Approach to Developing Educational Leadership in the Context of Digital Transformation

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Abstract: Educational leadership is crucial for enhancing the quality of education and the success of educational institutions. Amid rapid digital transformation, there is a pressing need for new educational leadership strategies that address the demands of the digital age and adapt to the swift changes in learning environments.

This study adopts both theoretical and practical approaches to explore how educational leaders can leverage digital transformation tools to increase educational effectiveness and foster inclusivity and interactivity. It examines various aspects of digital transformation, including technology, the educational environment, and institutional culture.

Keywords: Educational Leadership, Digital Transformation, Artificial Intelligence.

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I- Introduction :

Educational leadership significantly influences the direction and shaping of the educational process, particularly in the era of digital transformation, which affects all life facets. The rapid advancement in technology necessitates that educational leaders reevaluate their strategies and management styles to optimize the benefits of digital innovations. Developing educational leadership in this digital context requires adaptable and effective strategies based on a thorough understanding of technology's impact on education.

These strategies should also encompass the development of leadership skills needed to tackle new challenges such as managing remote educational teams, fostering collaboration among teachers, and providing support to learners in digital settings. Furthermore, digital transformation offers substantial opportunities to enhance personalized learning and widen access to knowledge.

Educational leaders must, therefore, design innovative educational settings that promote effective technology use. Thus, developing educational leadership in a digital landscape involves more than just implementing technical tools; it entails a holistic process of redefining visions, values, and educational practices to meet the new demands of this era.

1. Basic Concepts:

1.1 Educational Leadership:

Educational leadership is the specialized activity conducted by a leader in educational management, influencing others at various levels to cooperate in achieving a desired goal, or it is the process of influence that a manager has on subordinates to convince and motivate them to contribute effectively to the cooperative educational activity. (Al-Harbi, 2004)

It is also defined as the set of executive and technical leadership processes carried out through collective human collaboration, always aiming to provide the intellectual, psychological, and physical climate suitable for preserving tasks, inspiring a desire for active and organized individual and group work to overcome difficulties, adapt to existing problems, and achieve the educational goals set for the community and educational institutions. (Al-Badri, 2001.)

1.2 Digital Transformation or Digital Technology:

Digital transformation leverages modern digital technology to revolutionize education and modify learning methods and techniques. It encompasses a broad spectrum of tools, systems, devices, and electronic resources designed for creating, storing, and processing data. Prominent examples include social media, online gaming, multimedia, and mobile phones. (Key Examples of Digital Technology, analyticssteps, Retrieved 22/1/2022. Edited.)

The term "digital technology" broadly refers to the tools and systems employing digital processes to store, process, and transfer data, heavily reliant on computers, networks, and software. These technologies provide a plethora of services and solutions that streamline daily life and boost the efficiency of various business operations.

2. Fundamental Objectives of the Study:

- **Analyze digital leadership skills:** Focus on identifying the necessary skills to manage learning environments effectively amidst digital transformation.
- **Analyze educational leadership practices:** Investigate the practical application of these identified skills within educational settings.
- **Provide effective strategies:** Formulate and offer strategies that empower educational leaders to maximize the benefits derived from digital transformation.

3. The Impact of Digital Technology on Developing Educational Leadership:

There are several key impacts of modern technology on educational leadership:

3.1 Improving Communication and Interaction:

Technology has facilitated the communication process among educational leaders, teachers, students, and parents. For example:

- Educational platforms such as "Google Classroom" or "Microsoft Teams" assist in the swift and easy exchange of information.
- Email and text messaging provide continuous and effective communication channels.
- Educational leaders can communicate with teachers and students anytime and anywhere, enhancing flexibility and effectiveness in managing the educational process.

3.2 Supporting Data-Driven Decision Making:

The use of technology in collecting and analyzing data has become a fundamental tool for educational leadership. Through electronic systems that track student progress, educational leaders can make informed decisions based on actual results.

- Data analysis can reveal strengths and weaknesses in students' academic performance.
- This enables the provision of individual or collective solutions to improve educational outcomes.

3.3 Stimulating Innovation and Professional Development:

- Educational leaders can use technology to provide opportunities for professional training and continuous development for teachers. For example, online training courses offer opportunities to learn new skills and apply them in the classroom.
- E-learning platforms help promote a culture of continuous learning and encourage teachers to update their knowledge with the latest educational methods.

3.4 Enhancing Collaboration and Teamwork:

- Technology provides a suitable environment for enhancing collaboration among teachers, students, and administrators. Through collaborative tools like forums, wikis, and email, individuals can share ideas, resources, and work on joint educational projects.
- Educational leadership needs to enable teams to work harmoniously in an open and collaborative educational environment.

3.5 Managing Time and Resources:

- Technology aids in improving time and resource management within educational institutions. Through educational management systems, such as management information systems, it is possible to monitor teachers' schedules, allocate tasks, and track performance.
- It also provides technological tools for organizing meetings, educational events, and distributing resources fairly and efficiently.

3.6 Keeping Pace with Global Educational Changes:

Modern technology allows educational leaders to stay informed about the latest trends and global practices in education. The internet and digital content provide access to scientific research and modern educational strategies implemented in schools and educational institutions worldwide.

3.7 Moving Towards Smart and Blended Learning:

- Technology enables the implementation of smart educational strategies that rely on technologies such as virtual reality, AI-enhanced learning, and robotics.
- Blended Learning technologies, which combine traditional education with online learning, have become common. This requires educational leaders to be familiar with and effectively implement these methods.

4. Role of Educational Leadership in Addressing Technological Challenges:

Despite the considerable benefits, educational leadership encounters challenges in effectively implementing technology. These include:

- Technical disparities between teachers and students, with some individuals struggling to adapt to new technologies.
- Concerns over digital security and the safeguarding of student data.
- A digital divide between schools in different regions, leading to uneven levels of technology usage.
- **Preparing Learners for a Digital Future:**

Using technology, educational leaders can develop 21st-century skills among students, such as critical thinking, problem-solving, collaboration, and innovation. This prepares students to adapt to future changes and equips them better for the digital job market.

5. Contemporary Theories of Educational Leadership:

5.1 Transformational Leadership:

Founded by Sergiovanni between 1984 and 1990, transformational leadership is considered one of the most significant modern theories within educational institutions. It aims to bring about positive changes in institutions through a series of leadership ideas, primarily focusing on the leader's values as a role model and as a source of intellectual stimulation for creativity.

This style of leadership encourages employees and provides them opportunities to be creative and actively involved in educational tasks. (Mahmoud Abou Samra and Mohammad Al-Titi, , Palestine, 2011)

5.1.1 Concept of Transformational Leadership:

It is the process of motivating and energizing followers to achieve goals by promoting ideal values and ethical standards, ultimately elevating them to the status of leaders.

5.1.2 The Transformational Leader:

The transformational leader is an inspiring figure who employs their creativity and inspiration to influence followers, demonstrating effective ways to perform tasks and duties, guiding them, and using correct methods to prevent errors. This leader strives to bring about change through their followers. (Reda Amayra and Mohammad Achour, 2020)

5.1.3 Dimensions of Transformational Leadership:

- **Idealized Influence or Charisma:** The leader is highly respected, trusted, and admired by followers because they serve as a role model.
- **Individualized Consideration:** This dimension involves the leader recognizing and addressing the unique needs of followers, assigning tasks based on their personal characteristics and readiness.
- **Inspirational Motivation:** The leader works to heighten followers' awareness and understanding of the organization's goals, inspiring them to emulate these efforts.
- **Intellectual Stimulation:** The leader encourages employees to think innovatively about problem-solving and decision-making, promoting logical thinking by linking concepts to their causes before implementation.
- **Administrative Empowerment:** Decision-making power is delegated to front-line employees to enhance services and boost performance at both individual and institutional levels. (Al-Zouman, 2020)

5.1.4 Characteristics of a Transformational Leader:

- Drives forward a compelling and inspiring vision for the future, securing commitment and concerted effort from all stakeholders.
- Possesses strong communication skills, effectively persuading others to adopt change and overcome resistance.

- Exhibits creativity in thought and action, adept at identifying problems, devising solutions, and capitalizing on opportunities.
- Maintains a reputation for credibility, integrity, and moral rectitude.
- Intervenes in the workflow only as necessary.
- Cultivates a sense of worth among employees, significantly enhancing their self-esteem. (Transformational Leadership and Change Management, 2020)

5.1.5 Leadership Practices of a Leader in the Light of Transformational Leadership Style

Creating a conducive environment for successful leadership practices within an educational organization is essential for fostering employee satisfaction and achieving organizational objectives. This involves:

- Crafting a unified vision for the educational organization that reflects a consensus on goals, priorities, and high performance expectations to achieve optimal outcomes.
- Distributing responsibility through participative leadership, where all members are engaged in activities that propel the organization towards its objectives.
- Offering individual support, intellectual stimulation, and serving as role models for professional practice at all levels within the organization.
- Encouraging a culture of change within the educational organization through various mechanisms and symbols that reflect and reinforce cultural values. (Al-Hadires, 2019)

5.1.6 Importance of Transformational Leadership

- Offers opportunities for taking risks.
- Acknowledges and rewards the achievements and efforts of others.
- Promotes involvement in teamwork or group activities.
- Provides opportunities to demonstrate capabilities.
- Offers guidance and clarity on future directions.
- Focuses on transforming exceptional team members into leaders.
- Fosters creativity and continual personal and professional growth. (Abdelaziz Al Saud, 1433)

5.2 Servant Leadership

Servant leadership emerged in the early 1970s, pioneered by Greenleaf. It is a leadership approach characterized by altruism and ethics, supporting those who aspire to serve people and lead them as groups or institutions.

This theory is founded on the emotional premise that the desire to serve others is a human instinct that should be wisely utilized in leadership contexts. Servant leadership is a process of inspiring

individuals to give their best to achieve desired outcomes, focusing on guiding individuals to move in the right direction, securing their commitment, and motivating them to achieve their goals.

5.2.1 Concept of Servant Leadership:

Servant leadership is a natural leadership style that develops in individuals through practice and training, integrating devoted and ethical service to followers. It enables followers to participate in their growth and development as individuals and group members. This leadership style prioritizes the well-being of subordinates over glorifying the leader and emphasizes social contribution. It is considered the most influential and appealing leadership style. (Wassim Ouda, 2016)

5.2.2 Definition of a Servant Leader:

A servant leader is an individual in a position to influence others and thus prioritizes the needs of followers above all else, focusing on the growth of the communities they belong to. (Haider Yasser, 2018)

5.2.3 Characteristics of Servant Leadership:

- **Personal Characteristics:** Embody integrity, humility, and a commitment to service.
- **Other-Oriented Characteristics:** Include a concern for others, empowering and developing others.
- **Task-Oriented Characteristics:** Comprise vision, goal setting, and proactive leadership.
- **Process-Oriented Characteristics:** Involve modeling behavior, building effective teams, and participating actively in decision-making processes. (Matar, 2016)

5.2.4 Dimensions of Servant Leadership:

- **Conceptual Skills:** Leaders possess a deep understanding of their responsibilities, enabling effective support and facilitation of their subordinates' tasks.
- **Empowerment:** Demonstrated by encouraging and facilitating others, particularly through identifying and solving problems, and by supporting the development and success of subordinates.
- **Prioritizing Subordinates:** Focuses on addressing both the emotional and practical needs of employees, within and beyond the workplace.
- **Using Clear Procedures and Statements:** Ensures the needs of the work environment are met and prioritized efficiently.
- **Ethical Behavior:** Involves transparent, fair, honest, and just interactions with others.
- **Effective Compassion:** Exhibits a genuine interest in the personal concerns of others.
- **Adding Value to the Community:** Through a leader's authentic commitment to community development and support. (Al-Chamri, 2019)

5.2.5 Importance of Servant Leadership:

The distinctive value of servant leadership lies in its promotion of a balance between leading and serving, emphasizing that the primary role of leaders is to serve their followers. This approach encourages followers to embrace leadership roles within their circumstances. Key benefits include:

- Fosters a positive environment within educational institutions while mitigating negative influences.
- Enables individuals to excel in their roles, enhancing overall institutional effectiveness.
- Facilitates better cooperation among team members, leading to more cohesive team dynamics.
- Encourages change through innovative and creative work practices.
- Creates job satisfaction and organizational loyalty, which contribute to the development and retention of human capital.
- Empowers followers with the authority needed for making impactful changes that lead to organizational success. (Al-Ghanam, 2019)

6. Strategies for Developing Educational Leadership in the Digital Environment:

6.1 Professional Training and Development Programs for Educational Leaders:

These programs are designed to achieve multiple objectives:

- Equip school leadership with the expertise required to meet the goals of the school and its staff.
- Enhance the job satisfaction of school leaders, fostering a sense of value and significance.
- Promote positive attitudes towards leading the work at the school and towards the staff.
- Motivate school leaders to improve performance independently.
- Boost the creative and intellectual capabilities of school leaders to meet the demands of new work tasks.
- Advance the performance skills of school leaders.
- Enrich the theoretical knowledge and functional concepts specific to school leadership roles.

Effective professional development programs for school leaders are grounded in standards and principles of total quality management. These programs aim to provide leaders with access to information that challenges their preconceived notions and values, enabling them to transform these insights into impactful and meaningful practices in their work tasks. (Boccanfuso, 2007)

Four key characteristics distinguish these training programs: (Peterson, 2001)

- They focus on effectively developing educational skills for school leaders, accounting for individual differences.
- They prepare and enhance school leaders' capacities for effective leadership.
- They align with the vision, values, and mission of the Ministry of Education.

- They focus on developing skills and knowledge that help school leaders achieve the long-term strategic goals of their schools.

The most prevalent methods of professional development include ongoing training sessions, with workshops being less frequent. Other methods encompass mentoring, training programs, conferences, online learning, and social networking. (Berman, 2019) In some regions, professional development still relies on traditional methods such as conferences and workshops, along with the use of educational consulting. (Zellmer, 2014)

Professional learning communities represent a relatively modern approach to professional development, emphasizing support and knowledge-building, particularly in curriculum and teaching methods. These communities are pivotal in creating continuous and sustainable professional development programs. (VanSteenkiste, 2006)

Over recent decades, various new methods have been developed and tested within professional development programs for educational leaders worldwide. These include cognitive and theoretical training methods, such as lectures and self-study, primarily aimed at developing knowledge.

Among the innovative approaches is cooperative training, which focuses on developing communication skills pertinent to the training process, such as teamwork and project implementation. This approach aims to enhance understanding of social situations and improve the skills necessary for applying knowledge in interactive contexts. Modern methods also include electronic training and self-assessment. (Huber, 2013)

Robertson (Robertson, 2016) advocates for the applied training method as a critical component of professional development. This method emphasizes the day-to-day practicalities of educational leadership, underlining that professional development should incorporate the real tasks and skills pertinent to a leader's role.

Such training enhances the ability of trainees to apply skills as they would in the actual work environment of an educational leader. Professional development activities that are centered on the authentic practices of educational leaders foster collaboration among peers. This collaboration is crucial in solving daily challenges, supporting decision-making, and embracing the processes of change and innovation within the work environment.

It is imperative to employ multiple methods in the professional development of educational leaders, with a particular focus on contemporary techniques that bolster essential competencies and practical applications. Self-training is deemed a vital pillar of professional development.

Furthermore, providing constructive feedback is essential, as it allows participants to gauge their progress. The inclusion of training and e-learning within professional development not only conserves time and effort but is also viewed as a pivotal approach in modern educational leadership training. Professional development should also tackle cognitive aspects to enhance participants' higher-order thinking skills, such as problem-solving and decision-making.

Additionally, it is important to address the behavioral components associated with applying daily skills and practices. This should be linked to the emotional dimension, which involves altering

negative attitudes and reinforcing positive perceptions towards the profession, educational institutions, and their personnel.

7. Using Artificial Intelligence in Developing Educational Leadership:

In today's era, it is crucial for leaders to embrace artificial intelligence (AI) to construct a robust operational system that meets contemporary demands and aligns with client needs. Leaders are encouraged to underscore the benefits of AI applications and the automation of business processes, which are instrumental in motivating employees and enhancing their productivity until these innovations become integral to the daily work routine.

With AI's integration into the work environment and the utilization of its effective tools, such as Microsoft 365 Copilot and others, work methodologies are transformed, and productivity is significantly boosted. The strategic investment in artificial intelligence technology is seen as a pivotal lever that can shape the future of organizations.

A business leader should leverage their experiences to navigate technical challenges effectively. One practical strategy is the utilization of chatbots that simulate human interactions, which are particularly valuable in customer service settings. These chatbots help conserve time and resources by offering immediate assistance to customers, eliminating the need for extensive staff involvement.

The significance of AI applications within educational institutions extends to enhancing the technical systems and acquiring crucial information that aids in goal achievement and the development of job competencies. This contributes to the distinctiveness and excellence of both the institution and its members. (Al-Barbari, 2021)

AI applications, as strategic technological assets, are instrumental in boosting efficiency and generating new revenue opportunities. They enhance customer loyalty and rapidly establish a competitive edge for numerous organizations, enabling companies to accomplish more tasks efficiently, create compelling customer experiences, and predict business outcomes to augment profitability (Zarouki, 2020). Furthermore, AI tools provide innovative solutions during crises such as the Coronavirus pandemic or conflicts. They support the educational system by offering creative options facilitated by educational technology.

Additionally, AI significantly transforms the roles of teachers and leaders within the educational framework. It not only enhances educational processes and assists students in learning but also prepares them for future challenges through its diverse applications. AI aims to replicate human cognitive functions and work patterns, easing human tasks and allowing machines to undertake numerous activities that previously required substantial human effort and time.

Through automating processes and tasks that were once labor-intensive, and by possessing an extensive understanding of data beyond human capabilities, AI applications elevate institutional performance and productivity, driving performance enhancements and goal achievement. (Radwan)

7.1 Features of AI Applications in Educational Institutions:

AI applications in educational settings exhibit a range of distinctive characteristics:

- **Self-Awareness and Decision-Making:** They possess the ability to perform self-awareness and make decisions based on artificially designed algorithms and data, which can assist or even replace humans in completing tasks that previously required human intelligence. AI applications respond with flexibility and speed to variables in all situations, detect errors, and promptly correct them, performing improvements simultaneously with high accuracy and speed.
- **Supporting Student Creativity and Adaptation to Educational Material:** AI fosters creativity among students and adapts to academic content, understanding it and facilitating the acquisition of life skills. Smart educational programs enable computers to simulate human intelligence and skills, which require thinking, understanding, hearing, speaking, and movement, and performing various life skills. These programs are characterized by their high speed and accuracy, operate for extended periods without feeling boredom or fatigue, and maintain high efficiency in data management, the ability to reason and perceive, recognize patterns, simulate social and emotional intelligence, and generate and utilize knowledge in various fields such as smart robots, natural language processing, expert systems, and recognition of lines, images, and sounds. AI applications have expanded their uses to include fields like medicine, education, and engineering. (Al-Samarai, 2020)

The fields of AI in education and the automation of essential educational tasks, such as grading, assignment evaluation, and testing in large lecture courses, are expanding. Professional development using AI technologies now allows teachers to automatically classify all types of assessments and tailor educational programs to the needs of students from kindergarten to graduate studies. (Marcus, 2020)

8. Applications of Artificial Intelligence in Decision-Making for Educational Leaders Through Experiences in Arab Countries:

The study conducted by Al-Anzi in 2005 investigated the impact of artificial intelligence on internal operations, training and development, and auditor satisfaction within organizations. The findings demonstrated that the average effects of the independent variable, artificial intelligence, were high and moderate, with training and development receiving the highest ratings, followed by internal operations. Moreover, the study revealed that artificial intelligence exerted a statistically significant influence on the dependent variable, task management, across its various dimensions, internal operations, training and development, and auditor satisfaction.

In 2019, Al-Mutairi's research underscored the lack of training for leaders in utilizing artificial intelligence for educational decision-making, the infrequency of smart technology adoption in such decisions, and a general reliance on traditional skills and selection standards. The study noted a scarcity of intelligent databases for decision-making, minimal use of human input for feeding data into smart devices, and a notable deficiency in employee awareness of the role of artificial intelligence in optimizing decision-making processes.

Furthermore, it highlighted the inefficient use of time in traditional decision-making processes and the limited exploitation of artificial intelligence. The research also pointed to a rarity in the application of learning from past decision-making experiences to enhance future processes and a reliance on AI for solving complex relational analyses.

Ajami's 2019 investigation focused on the concept of artificial intelligence and its influence on high-performance organizations, confirming a significant correlation and substantial impact of AI implementations within the departments analyzed.

Yanqing Duan et al. (2019) conducted a study titled "Artificial Intelligence for Decision-Making in the Era of Big Data," leading to several recommendations. These included redefining the concept of artificial intelligence and associated terminologies to better reflect the evolving nature of development and AI applications in the age of big data. The study emphasized the need to establish and evaluate AI indicators to gauge their effectiveness and the necessity for a robust, theoretically grounded, and practically viable conceptual framework to systematically understand AI's role in decision-making.

It suggested that AI is primarily perceived by human decision-makers as a tool to support or enhance decision-making processes, rather than to replace them. The design of AI systems varies from support to enhancement, replacement, or automation. Improvements in AI performance for decision-making can be achieved through advanced machine learning techniques, deeply integrating these systems into the decision-making process.

The success and utilization of AI are significantly influenced by the personal characteristics, knowledge, and understanding of its users. There is an essential need for comprehensive understanding of the interaction between AI and big data and its implications for AI research and practices. Moreover, the adoption of AI in decision-making is influenced by diverse cultural and personal values, and its successful implementation can lead to transformative changes in organizational culture and individual behaviors.

Claudie and Comb (2018) conducted a study titled "The Role of Artificial Intelligence and Humans in Decision-Making," which concluded that artificial intelligence cannot replace humans in the decision-making process in reality. Despite AI's faster and more profound analysis of very specific topics compared to humans, it cannot integrate emotional and ethical standards, and cannot solve a dilemma or address a new problem outside its range of expertise without human input and training.

Thus, the role of AI in decision-making is to assist and support humans in analysis and formulating alternative decisions, with humans evaluating the alternatives suggested by AI and choosing the best solution for implementation or considering another alternative not suggested by AI due to the network of values, ethics, creativity, and intuition.

Schubert et al. (2018) conducted a study titled "Artificial Intelligence to Support Decision-Making in Command and Control Systems," which identified different perspectives on AI and highlighted the tangible command and control system tasks that could benefit most from integrating AI functions. The results showed that AI's advantage lies in providing necessary support to the system when time is limited or when there are too many options for humans to analyze all alternatives effectively.

In conclusion, AI applications are increasingly pivotal in advancing educational leadership and enhancing the decision-making process through:

- **Data Analysis:** AI excels at processing extensive datasets about learners and educators to offer dynamic, personalized insights that enhance educational outcomes.

- **Timing of Decisions:** AI provides strategically timed decision-making guidance based on comprehensive data analysis and predictive assessments.
- **Performance Evaluation:** AI evaluates learner performance and generates tailored recommendations for educational enhancement.
- **Guidance for Learners:** AI delivers customized guidance to learners, addressing their specific needs and fostering their interests.

9. Enhancing Innovation and Creativity for Digital Learning Leadership:

Innovation and creativity are pivotal in enhancing the performance of educational institutions, from schools to universities, and in driving effective advancements in the educational process. Creative educational leadership plays a crucial role in enriching the learning environment, motivating teachers and students, and devising new solutions to evolving educational challenges.

Thus, innovation and creativity are of significant importance in the development of educational leadership within the digital learning context, characterized by:

- **Improving Education Quality:** Creative leadership is instrumental in updating curricula and teaching methodologies to align with contemporary needs and advanced technology.
- **Motivating Teachers and Students:** Innovative leadership fosters independent and creative thinking among teachers and students, encouraging a culture of challenge and excellence.

10. Strategies to Enhance Innovation and Creativity in Educational Leadership:

- **Motivation and Inspiration:** Creating an educational atmosphere that promotes creative thinking enables leaders to cultivate a school culture centered on experimentation and learning from mistakes.
- **Collaborative Learning:** Fostering collaboration among teachers, administrators, parents, and students encourages the exchange of innovative and creative ideas.
- **Leveraging Technology:** Utilizing technological tools, such as e-learning platforms, interactive applications, and social media, to augment the educational experience.
- **Supporting Continuous Education:** Offering continuous training opportunities for teachers in innovative teaching methods and emerging technologies.
- **Developing Leadership Skills:** Enhancing educational leadership skills through workshops, training courses, and professional development programs to prepare leaders for future challenges.
- **Adapting to Changes:** Innovative leadership adapts to societal and technological changes, transforming challenges into opportunities.
- **Promoting a Culture of Continuous Learning:** Encouraging ongoing learning and professional development within the educational community, benefiting both teachers and students.

IV- Conclusion:

Theoretical and practical approaches to developing educational leadership in the era of digital transformation are crucial for improving school performance and enhancing the quality of education. These approaches aid in refining the skills of educational leaders to address the challenges presented by modern technology, improve their decision-making capabilities based on data, and contribute to the achievement of educational objectives and the sustainable development of the educational system.

Therefore, it is essential to adopt and enhance these approaches, incorporating them into education policies, and leadership training and development programs to ensure success and excellence in educational leadership in the digital age.

references:

1. Abdelaziz Al Saud,(1433), **Reality of Transformational Leadership Behavior Dimensions from the Perspective of Employees in Saudi Education Sector Organizations**, Journal of Human and Social Sciences, Riyadh, Saudi Arabia.
2. Al-Badri, Tarik Abdel Hamid,(2001) **Leadership and Administrative Styles in Educational Institutions**, 1st Edition, Dar Al-Fikr for Printing, Publishing and Distribution, Amman, Jordan.
3. Al-Barbari, Mohammad Ahmed Awad,(2001) **Development of Technical Job Competencies of Directors of Assessment and Evaluation Centers at Egyptian Universities to Meet Digital Transformation Requirements: A Field Study**, Arab Studies in Education and Psychology, Issue 134, Arab Educators Association.
4. Al-Harbi, Kassim Ben Ail,(2004) **School Leadership in Light of Modern Educational Leadership Trends**, Al-Rushd Library, Riyadh, Saudi Arabia.
5. Al-Samarai, Ammar Essam,(2020) **The Role of Artificial Intelligence Technologies Using Digital Audit in Achieving Audit Quality and Supporting its Strategy from the Perspective of Auditors: A Field Study in Audit Firms in the Kingdom of Bahrain**, Global Journal of Economics and Business, Vol. 8, Issue 1, Rafad Center for Studies and Research.
6. Berman, J, (2019) **Teacher preparation in a virtual K-12 context: The perceptions of school leaders concentrating teacher professional development**. A doctoral dissertation, Temple University.
7. Boccanfuso, **Development of a standards-based feedback system to guide the professional growth of school leaders in Connecticut**. A doctoral dissertation, University of Connecticut, 2007.
8. Haider Yasser,(2018) **Servant Leadership and Its Relationship in Enhancing Organizational Citizenship Behaviors**, Al-Aqsa University, Palestine.

9. Huber, S, (2013) **Multiple learning approaches in the professional development of school leaders: Theoretical perspectives and empirical findings on self-assessment and feedback.** Educational Management Administration & Leadership, 41(4), 527-540.
10. Key Examples of Digital Technology, analyticssteps, Retrieved 22/1/2022. Edited.
11. Mahmoud Abou Samra and Mohammad Al-Titi,(2011) **Transformational Leadership Among Heads of Educational Supervision Departments in the Directorates of Education in Palestine**, Journal of Educational and Psychological Sciences, Palestine.
12. Marcus, Samir Saad, **Using Expert Systems to Build a Tax Knowledge Base and Develop Tax Collector Performance**, Journal of Money and Business, Issue 613, Trade Club, 2020.
13. Mazen Al-Hadires,(2019) **Transformational Leadership and Its Relationship to Administrative Creativity Among High School Principals from Their Perspective**, Arab Journal for Scientific Publishing, Jordan.
14. Moudi Al-Zouman,(2020) **Transformational Leadership and Its Application Obstacles in Governmental Devices in Saudi Arabia**, Public Administration Institute, Riyadh, Saudi Arabia.
15. Ola Abou Al-Ghanam,(2019) **Servant Leadership Practiced by High School Principals in Madaba Governorate and Its Relationship with the Prevailing Organizational Climate in Their Schools from the Perspective of Teachers and Assistant Principals**, Middle East University, Jordan.
16. Parthasarathy, A., **Coronavirus Challenge - Propelling a New Paradigm of Work from Home.** Philips, S. **Coping with Covid - 19: Distance Learning and the Digital Divide.** Up with demand, 2020.
17. Peterson, K., (2001) **The professional development of principals: Innovations and opportunities.** Paper presented at the Annual Meeting of the National Commission for the Advancement of Educational Leadership Preparation (1st, Racine, WI, February 7-9.
18. Radi Al-Chamri, (2019) **The Reality of Practicing the Dimensions of Servant Leadership by Heads of Scientific Departments at Hafr Al-Batin University from the Perspective of Faculty Members**, Arab Journal for Sciences and Research Publishing, Saudi Arabia.
19. Radwan, Mohammad Saber Abou Zaid,(2020) **Effectiveness of a Solution-Focused Counseling Program in Developing Artificial Intelligence and Its Impact in Reducing Aggressive Behavior Among University Youth**, Journal of Social Service, Issue 63, Vol. 2, Egyptian Association of Social Workers.
20. Reda Amayra and Mohammad Achour, (2020) **The Degree of Practicing Transformational Leadership by School Principals in Irbid Qasbah Directorate and Its Relationship with Decision-Making Effectiveness from Teachers' Perspectives**, Islamic University Journal for Educational and Psychological Studies, Jordan.
21. Robertson, J.,(2016) **Coaching leadership: Building educational leadership capacity through partnership.** New Zealand Council for Educational Research. PO Box 3237, Wellington 6140 New Zealand.

22. Saleh Al-Rachid and Ali Matar,(2016) **Servant Leadership: A New Perspective for Leadership in the 21st Century**, Arab Center for Publishing and Distribution, Iraq.
23. **Transformational Leadership and Change Management**, Royal Academy, 2020.
24. VanSteenkiste, C.,(2006) **K–12 principals' perceptions of professional development for school leaders offered in Macomb Intermediate School District**. A doctoral dissertation, Capella University.
25. Wassim Ouda,(2016) **The Role of Servant Leadership in Improving the Level of Organizational Environment at the Ministry of Interior and Job Security**, Academy of Management and Policy for Graduate Studies and Al-Aqsa University, Palestine.
26. Zarouki, Riyad,(2020) **The Role of Artificial Intelligence in Improving the Quality of Higher Education**, Arab Journal for Quality Education, Issue 12, Arab Foundation for Education, Sciences and Arts.
27. Zellmer, A.,(2014) **School leaders' perceptions of using #iaedchat: A subnetwork of Twitter for professional development and lifelong learning**. A doctoral dissertation, University of South Dakota.