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The Issues in Digital Leadership Worldwide: A Conceptual Paper

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Abstract
There has been a huge shift in educational settings since Covid-19 hit worldwide. Given how quickly the educational world evolves, there is a need to uncover issues in the existing leadership style's practice. Therefore, the purpose of this study is to investigate issues in digital leadership, which has become a critical leadership style in recent years. This paper has referred to a few studies that have been undertaken in Malaysia and other countries from 2020 to the present. As a result, there are four critical topics that have been and continue to be debated around the world. The issues are financial and infrastructure constraints in the implementation of digital leadership, lack of knowledge and skills in digital leadership, measurement and assessment issues in digital leadership and lack of study in digital leadership. Therefore, it is advised that a study be conducted to uncover relevant constructs for digital leadership based on a country's social economic condition in order to prepare future teachers and educational leaders with digital leadership skills.
Keywords*:* Digital Leadership, Issues, Education, Teachers, Leaders

Introduction
The world witnessed a major transition in many children's activities towards a digital realm during Covid-19 (Brossard et al., 2021). Countries that are able to overcome the educational barriers created by Covid-19 are those that can build on the long-standing implementation of information and communication technology (ICT) in the education master plan, as well as sustainable development in terms of digital learning systems, digital learning resources, and teacher pedagogy for digital and long-distance learning (The World Bank et al., 2021). Digital technology offers the capacity to provide educational content to a large number of people quickly (Brossard et al., 2021). Instead than replacing teacher duties, digital technologies are beneficial in boosting learning when they are used to equip and support teachers (Tamim et al., 2011). Leadership has a significant influence on educational technology adoption, which leads to better student results (Greaves et al., 2012). Digital leadership is one of the leadership styles that has been inspired by digital technology.

Digital leadership is a new type of leadership that combines technology with leaders (Domeny, 2017). Digital leadership is about certain parties, namely teachers, administrators and technology leaders who are aware of the potential of technology to enhance the student experience (Brown, 2014). Digital leadership is defined as the ability to create direction, influence people, initiate sustainable change through access to information, and build relationships in order to foresee future changes that are critical to school success (Agustina et al., 2020). According to Sheninger (2014), digital leadership is the key to innovative transformation in education, which adds style to the teaching and learning process while also influencing community and student use of information and communication technologies via digitally enhanced platforms.

The technological network becomes a more flexible educational tool when students, instructors, and family members possess great digital competence (UNESCO, 2021). However, access to inexpensive gadgets, internet connections, energy, and data is restricted in digital learning (Brossard et al., 2021). As more pupils fall behind during the transition to the remote learning period, the digital gap is becoming more and more evident (The World Bank et al., 2021). Every student must be given the tools to fulfill their potential in order to address the learning problem, especially through high quality digital learning (United Nations Children's Fund, 2021). Furthermore, teachers require training to arrange and deliver remote learning and hybrid learning, but basic training on digital online platforms is insufficient (The World Bank et al., 2021). Therefore, this study aims to:

- identify issues in digital leadership

Issues in Digital Leadership

There are several issues commonly discussed in digital leadership. Firstly, financial and infrastructure constraints in the implementation of digital leadership. Secondly, lack of knowledge and skills in digital leadership. Thirdly, measurement and assessment issues in digital leadership. Finally, lack of study in digital leadership.

A. *Financial and Infrastructure Constraints in the Implementation of Digital Leadership*

Administrators and instructors have challenges in supporting and maintaining digital devices and software in schools and communities, while children in remote areas face additional challenges (Friday Institute for Educational Innovation, 2015). Budgeting, maintaining the project, and negotiating and setting expectations for instructional integration with teachers were among the key issues school administrators faced, according to (Gonzales, 2019). In the United States for example, maintaining a school district's technological infrastructure is a time-consuming and costly task that affects administrators, instructors, and students on a daily basis (Ellis et al., 2021).

When asked about the impact of principals as digital leaders on school culture, 93 percent of principals said that while they were aware of the importance of digital leadership in improving teaching and learning outcomes in the digital age, they had limited opportunities to implement it in their schools due to the time required for improved professional development and training, as well as a lack of technological infrastructure and financial constraints (Aksal, 2015). Therefore, basic infrastructure and staff requirements should be analysed and appraised to identify current deficiencies so that changes may be made to suit current and future needs (Ellis et al., 2021).

B. Lack of Knowledge and Skills in Digital Leadership

The ability of a school principal to serve as a digital leader on their campus is becoming increasingly reliant on their own technological abilities and experience (Project Tomorrow, 2021). There are five major issues that school administrators encounter in their work: (a) a lack of technological training, (b) school community hostility, (c) a lack of resources, (d) equity, and (e) bureaucracy (Sincar, 2013). According to research, school administrators have hurdles when it comes to integrating technology (Ellis et al., 2021). Many school principals are under pressure to adopt digital learning strategies, and institutions of education are tasked with training future principals to embrace technology integration in teaching and learning (Ellis et al., 2021). Because school leaders have so many duties, it's critical that they have the skills and knowledge needed to be technology leaders (Brockmeier et al., 2015).

According to surveys, school administrators did not feel adequately equipped for their new job as technology leaders (Garcia & Abrego, 2014; Yu & Prince, 2016). For example, 50 aspiring school administrators said they were not confident in their ability to achieve the ISTE Standards for Education Leaders and that they were unprepared for their new job as technology leaders who understand how to successfully integrate technology in their schools (Yu & Prince, 2016). School leaders are encountering a knowledge, application, and navigational gap in how to lead and support educators with increasingly mandated digital developments and technology integration using best practises into school learning settings (Aksal 2015). Leaders that do not understand how to leverage digital technology and the instrumentation that comes with it, as well as the benefits it brings to their stakeholder relationships, will lag behind (Domeny, 2017).

A significant challenge confronting administrators is how to effectively use technology to promote pedagogical practise in the classroom and facilitate learning (Ellis et al., 2021). The lack of administrative assistance may be the most major impediment to teachers integrating technology (Fisher & Waller, 2013). Creating professional digital learning opportunities for school administrators to support them as digital leaders might lead to teacher and student advocacy (Ellis et al., 2021). Determining the strengths and shortcomings of an administrator's technological abilities might lead to better technology integration efficacy (Ellis et al., 2021). School administrators who participate in digital technology-related continuing education and professional development training to learn and use digital technology skills have a more positive attitude toward overall digital learning in the school (Daraghmeh & David, 2017). The school principal's role in developing teachers' views and attitudes toward a common vision based on high-quality education and technology integration might help break down obstacles to successful classroom technology deployment (Fisher & Waller, 2013).

C. Measurement and Assessment Issues in Digital Leadership

Assessment has always been linked to how successfully teachers assess student achievement and learning outcomes (Ellis et al., 2021). The techniques should go beyond the rubrics provided by the current institutions to determine whether or not requirements have been reached (Ellis et al., 2021). There are currently no established standards for determining whether classroom instructors have met the digital competences (Ellis et al., 2021). To yet, no study has explained how administrators should evaluate if teacher technology requirements have been fulfilled in the classroom, despite the fact that a profusion of assessment models and theories have been produced to assist teacher assessment (Ellis et al., 2021).

Richardson et al (2012) also discovered that roughly 68 percent of digital leadership articles are merely descriptive (Agustina et al., 2020). In addition, digital leadership has never correlated with other variables related to teacher reflective practices (Agustina et al. 2020). In a study by Ellis et al (2021), on whether classroom instructors are following ISTE technology criteria, assessment and evaluation processes vary greatly throughout the United States. For example, determining whether or not K-12 instructors have successfully integrated digital technology requirements into the classroom is subjective (Ellis et al., 2021). Supporting administrators in embracing digital leadership and fully comprehending the digital learning competencies that teachers use might result in better assessment methods (Ellis et al., 2021).

D. Lack of Study in Digital Leadership

Richardson et al (2012) who published a National Educational Technology Standards for Administrators (NETS-A), review of all literature on the issue of school digital leadership published between 1997 and 2012, was struck by the dearth of study on the issue of technology integration in schools, particularly the absence of research on the function of digital leadership in fostering digital cultures (Agustina et al., 2020). Therefore, more research is needed on problems such as technology requirements for school leaders and the competencies of leaders who will become change agents or leaders (Richardson et al., 2012). As for example, Agustina et al (2020) has develop a digital leadership model based on the factors of trust, self-efficacy, and work engagement; which the inclusion of these factors is intended to encourage teachers to reflect.

According to Avidov-Ungar et al (2022), there are only few studies that look at the function and qualities of leaders in educational changes in general, and digital leaders in particular, using metaphor analysis. Metaphor helps researchers to gain insight into the participants' secret thoughts on their roles, as well as their readiness to take on leadership and responsibility in the future (Avidov-Ungar et al., 2022). In periods of transition in the educational system, the usage of metaphors is critical since metaphors have a deeper meaning than conventional language expressions (Avidov-Ungar et al., 2022). Figure 1 shows four issues related to digital leadership.
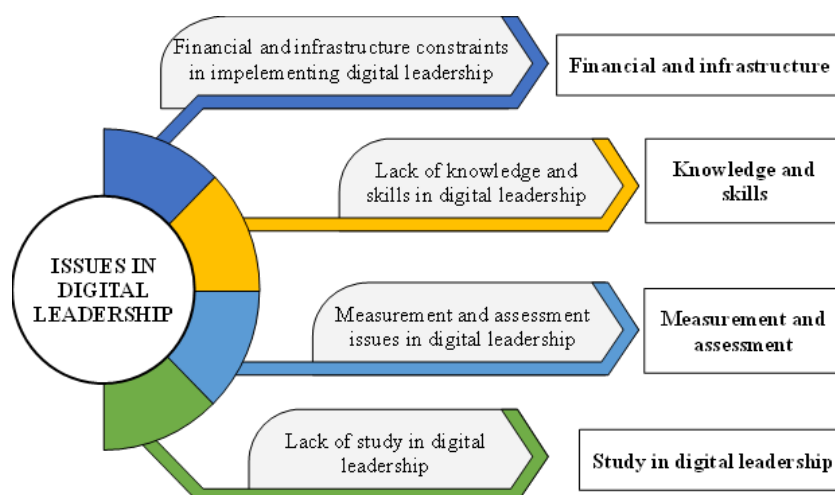

Figure 1. Issues in digital leadership

Discussion

The four difficulties in digital leadership mentioned previously must be addressed in order for digital leadership to be successfully implemented. It is because these challenges are intertwined, so if one of them is not addressed, school leaders and teachers may have difficulty integrating digital leadership in the classroom. Financial difficulties, for example, need be resolved in order to provide sufficient infrastructure for the school to improve its digital leadership. Students and instructors will have enough facilities in the teaching and learning process that incorporates digital leadership if a big amount of money is spent on infrastructure. Leaders in education should build a clear vision for how technology may fulfil the needs of all students, as well as a practical strategy to put the vision into action (Ellis et al., 2021).

Furthermore, digital leadership knowledge and abilities are critical to the effective implementation of digital leadership. A school leader or teacher who lacks in-depth knowledge and abilities in digital leadership will be unable to implement digital leadership in the teaching and learning process both inside and outside of the classroom. Because principals and teachers have various responsibilities in schools, their knowledge and abilities in digital leadership may differ. A leader should identify the right digital leadership abilities and technical knowledge to model behaviours that will help their teachers succeed in the classroom (Ellis et al., 2021).

Future leaders should be concerned about the issue of digital leadership measurement and assessment. Significant constructs, variables, criteria, dimensions, or elements of a successful implementation of digital leadership will be revealed by a complete measurement and assessment of digital leadership. A thorough measurement and assessment will reveal information about related or other demographic factors that contribute to school-wide digital leadership. It is necessary to design evaluation tools for detecting and evaluating instructors' breadth of knowledge and types of technologies used (Ellis et al., 2021).

Furthermore, greater study into digital leadership will give information on digital leadership's strengths and pertinent concerns. As a result, educational stakeholders may be able to give solutions in order to address global concerns. The research's strengths may give information on training that should be undertaken globally. While education leaders acknowledged that they are aware of the various standards, more training is required to satisfy state and national requirements (Ellis et al., 2021).

Recommendation

Several solutions are provided to overcome the highlighted concerns based on the issues mentioned before. The first step is to ensure that schools have adequate financial and infrastructure resources. Second, ensuring that school principals and teachers have necessary knowledge and skills. Thirdly, concentrating on the development of assessment tools for assessing digital leadership among school principals and teachers. Finally, conducting a comprehensive study on digital leadership that incorporates relevant variables from different literatures.

Conclusion

This conceptual paper findings made an important contribution by identifying four issues in digital leadership namely financial and infrastructure constraints in the implementation of digital leadership, lack of knowledge and skills in digital leadership, measurement and assessment issues in digital leadership and lack of study in digital leadership. This research

has made various proposals for resolving the problems. It will aid in the planning of school infrastructure, and teachers and administrators training by detecting challenges in digital leadership. As a result, it will assist teachers in implementing digital leadership in the classroom. Teachers may become more aware of digital leadership challenges if they participate in activities organised by the ministry and other relevant authorities or institutions that help them discover answers to problems they are experiencing. The difficulties raised earlier will help to alter the definitions and concepts of digital leadership to make them more relevant to today's circumstances. The outcomes of this study should be highlighted since further research is needed to help teachers master digital leadership and apply it during teaching and learning sessions as well as outside of the classroom. It is advised that research be conducted on concerns of digital leadership based on a country's social economic condition as a path forward. It is because infrastructure is critical to ensuring the smooth supply of modern technology, which requires a significant investment. The findings will provide insight into and ideas such as criteria for conducive environment and adequate resources for implementing digital leadership globally.

Contribution

This study contributes to the body of knowledge and to the body of practice. Firstly, this study contributes recommendations in overcoming issues in digital leadership. Secondly, this research confers empirical evidence of issues in digital leadership. In addition, this study promotes teachers' individual potential in digital leadership based on constructs found. This study also provides new insight related to digital leadership in educational field. Next, this study contributes to improve the practice of digital leadership among school leaders and teachers. Finally, this study extends theoretical conceptualization of digital leadership.

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