

A Critical Appraisal of Using Digital Literacy as A Transformational Leadership Style in An Educational Context

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Abstract: School leadership is only second to classroom instruction in terms of influence on student learning. The strengths of digital literacy lie in its ability to employ the transformational leadership approach to guide and direct the educational goals whereas its weakness rests on its susceptibility to failure to influence educational achievement as anticipated especially if it is wrongly implemented. With a particular focus on the Saudi Arabian educational context, the objective of this critical assessment in this area is to lay bare the benefits and shortcomings of adopting the digital literacy scheme so as to inspire change-oriented school leadership. The strengths identified include the capability to inspire and lead positive change within an educational setting, ensure a technology-oriented basis for organisational change, provide a platform for empowering a school community by inspiring genuine collaboration among the stakeholders, and to nurture all-round educational technology leaders. The analysis finds digital literacy as an approach to transformational leadership weak in that its effectiveness is dependent on the self-efficacy of the educational leader involved vis-à-vis their digital proficiency, the digital competence of the school as well as the access to the requisite professional and trade standards and their applicability. The critical appraisal offers a starting point upon which educational supervisors can effectively implement the digital literacy approach in their efforts to lead, direct and inform the desired transformation in an education setting.

Keywords: Information Literacy, Pedagogical Issues, Teacher Professional Development, Teaching/Learning Strategies, 21st Century Abilities.

مراجعة نقدية لاستخدام مهارات المعرفة الرقمية كنمط قيادة تحويلية في سياق تربوي

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وزارة التعليم || المملكة العربية السعودية

المستخلص: تعد القيادة المدرسية في المرتبة الثانية بعد عملية التعليم داخل الفصول الدراسية من حيث التأثير على تعلم الطلاب. كما تكمن مواطن القوة في مهارات المعرفة الرقمية في قدرتها على استخدام نمط القيادة التحويلية لتوجيه وإدارة الأهداف التعليمية، في حين أن أوجه قصورها تتوقف على مدى قابليتها للفشل في التأثير على التحصيل التعليمي كما هو متوقع، لا سيما إذا تم تنفيذها بطريقة خاطئة. من خلال التركيز السياق التربوي في المملكة العربية السعودية، استهدفت المراجعة النقدية تحديد أهم الفوائد وأوجه القصور في تبني مهارات المعرفة الرقمية لإلهام القيادات المدرسية الموجهة نحو التغيير. وتشمل مواطن القوة التي تم تحديدها القدرة على إلهام التغيير الإيجابي وقيادته في إطار تعليمي، وضمان وجود أساس للتغيير المؤسسي الموجه نحو التقنية، وتوفير منصة لتمكين المجتمع المدرسي من خلال إلهام التعاون الحقيقي بين أصحاب المصلحة، ورعاية قيادات تكنولوجيا التعليم على نطاق واسع. وخلصت نتائج هذه المراجعة النقدية إلى ضعف الإلمام بالمهارات الرقمية كنمط قيادة تحويلي، حيث أن فعاليتها تتوقف على الكفاءة الذاتية للقائد التربوي المعني مقابل الكفاءة الرقمية، والإمكانيات الرقمية للمدرسة، بالإضافة إلى إمكانية تحقيق المعايير المهنية والعملية

المستهدفة وإمكانية تطبيقها. وتعد هذه المراجعة النقدية نقطة انطلاق تمكن المشرفين التربويين من خلالها التوظيف الأمثل لمهارات المعرفة الرقمية بشكل فعال في جهودهم المبذولة إلى قيادة التحول الرقمي المنشود في توجيه وإدارة السياق التعليمي. الكلمات المفتاحية: الوعي المعلوماتي، القضايا التربوية، التطوير المهني للمعلمين، استراتيجيات التعليم والتعلم، مهارات القرن الحادي والعشرين.

Introduction

Behind every successful education program is a creative and techno-savvy educational supervisor. Classroom instruction is the only element that supersedes school leadership in terms of influence on student learning. Innovative superintendents who are highly knowledgeable in using technology as a part of their core supervision practices are able to significantly impact on learning among students (Leithwood, Day, Sammons, Harris, & Hopkins, 2006). Digital literacy, as a school management strategy, allows for the use of the transformational leadership style to guide success for teachers despite its susceptibility to inability to influence student achievement as expected especially if wrongly approached. Recognition and leveraging of the strengths and weaknesses of using digital literacy as a transformation leadership approach has been a major challenge in the educational supervision department of the Ministry of Education (MoE) of Saudi Arabia. A comprehensive inquiry in this area will uncover the benefits and shortcomings of adopting the digital literacy stratagem to inspire change-oriented school leadership. This will enable the educational supervisors to lead and inform the desired transformation in the educational context.

The success of the educational supervisors in inspiring transformational leadership through digital literacy is hinged on the extent to which they are able draw on their repertoire of technological knowledge and skills as well as the relevant basic leadership practices. The critical question here thus relates to how the related leadership practices are applied and whether the adopted approach shows responsiveness to the realities of their educational contexts. Education supervisors seeking to entrench transformational leadership ought to be visionary, passionate and be able to lead (Delattre, 2014). By integrating technology, digital leadership together with the basic virtues of the transformational leadership style have the capacity to not only energise and inspire teachers and students to achieve the set vision but also to enthuse them to help one another to attain higher degrees of motivation and morality (Delattre, 2014; Bush', 2014; Bush & Glover, 2014). The approach significantly influences educational contexts by making them more engaging and interesting to learners and teachers besides enhancing staff commitment and motivation thus powerfully and obliquely improving learning and teaching strategies (NCSL, 2007; Leithwood, Day, Sammons, Harris, & Hopkins, 2006). However, this cannot be fully realised without proper and comprehensive understanding of the strengths and weaknesses of using digital literacy as an approach for transformational leadership in schools.

This study critically assesses the strengths and weaknesses of using digital literacy as a transformational leadership style by educational supervisors in Saudi Arabia. It accomplishes this by establishing: whether digital literacy as a transformation leadership technique is able to produce the sought changes; the effectiveness of the approach in inspiring and motivating the stakeholders to commit to the transformative vision of the organisation; the capacity of the educational supervisors to bridge the gap between the traditional and current instructional approaches to inform positive change among learners and instructors; the indicators of the effectiveness of the approach in an educational context; potential pitfalls of using the approach to lead educational transformation; and what various stakeholders think about the use of digital literacy by educational supervisors to lead change in an educational context.

Literature Review

A preliminary analysis of the current literature on the use of digital literacy as transformational leadership tool casts the leadership style as the hallmark of inspiring and leading positive change within an organisation. Cherry and Fogoros (2018) delineate a transformational leader as a person who is able to convey a clear vision of the transformational goals of an organisation by exuding great passion, enthusiasm and energy, elements that together recharge and inspire every member of the team to commit to the realisation of the sought goals. In their quest to provide transformational leadership using digital literacy, educational supervisors in the Saudi MoE are not only involved in the change process but also committed to assisting all the stakeholders involved in the process to thrive. The educational supervisors thus deploy digital literacy in a manner that ensures: intellectual stimulation by supporting creative use of digital tools by both the instructors and learners; individualised consideration where delivery of digital knowledge is aligned with the individual needs and unique capabilities of each student; inspirational motivation where instructors and other support personnel in an institution identify with the clarified vision of change and commit to the realisation of the sought goals; and idealised influence, where the educational supervisors radiate digital literacy ideals that all the stakeholders readily emulate and internalise (Cherry & Fogoros, 2018). As Almudarra (2017) appropriately opines, the evolution of the educational supervisor into a transformative leader has led to redefinition of their role 'to that of a director' by virtue of bestowing upon them the duty of clarifying the organisational vision and goals as well as recharging, inspiring and leading those under their charge.

Transformative leadership, as a form of school leadership, has a significant influence not only on pupil learning but also on instructor teaching and subsequently on the resultant learning and teaching environment. The level of influence informed by the transformative leadership offered by educational supervisors is significant and is mostly a function of the fundamental leadership skills honed by the supervisor. The National College for School Leadership (NCSL) (2007) contends that such repertoire of fundamental leadership skills underpin successful transformational leadership with the manner in which

these essential practices are applied indicating great responsiveness to the unique realities of the respective educational contexts. Thus Saudi educational supervisors have the potential to positively transform learning and teaching through digital literacy-based leadership by inspiring commitment and motivation among learners and their instructors and by promoting school environments that are learning-centred and technology-oriented. Digital literacy as a form of transformational leadership thus directly improves learning and teaching by transforming the working conditions of the instructors and the learning experiences of the students besides positively impacting on their commitment and motivation (Leithwood, Day, Sammons, Harris, & Hopkins, 2006; NCSL, 2007).

The effectiveness of digital literacy-based transformational leadership is dependent on the self-efficacy of the educational leader vis-à-vis their digital competency. Leithwood et al. (2006) regard leader self-efficacy as a critical precursor to effectual transformational leadership. This view is corroborated by Popper and Mayseless (2002) and Zaccaro et al. (2004) who variously established leaders who demonstrated a high level of intellectual flexibility, curiosity and openness, optimistic orientation towards self, capacity and motivation to positively inspire others, and trust in their capacity to influence others were better placed to lead and inspire transformative change. Leonard and Leonard (2006) assert that numerous school leaders or educational administrators evaluate themselves as insufficiently trained to take up the function of leading technology in their institutions. The negative self-belief impedes school administrators from becoming effective leaders of digital transformation in educational contexts, a state of affairs that is then embodied by their failure to inspire teachers to integrate technology in the learning and teaching process (Leonard & Leonard, 2006). In this respect, the capacity of the educational supervisors in the Saudi educational context to use digital literacy to inspire transformation across the education context is dependent on their own belief about their ability to do so both individually and collectively. The approach could thus prove beneficial where the educational supervisors demonstrate a high degree of belief in their capacity to lead and achieve digital transformation in both teaching and learning. Otherwise, the process is poised to fail where leader self-efficacy among the educational supervisors is below par. For the sake of clarity, the issue here is thus not about the actual capacity or skills of the supervisors, but rather about their belief regarding their capacity to use the digital literacy skills they possess to inspire transformation across the education context.

The effectiveness of digital literacy as a tool for transformational leadership is pegged on the digital competence of the school or educational leadership in question. Ottestad (2008) opines that digital maturity and efforts to promote common practice vis-à-vis technology are the hallmarks of a digital literacy-based transformational leadership in an educational context. Educational environments in which technology underpins the pedagogical and learning practice thus feature a substantial degree of digital maturity, flexibility as well as a commitment by the school leadership to support shared assessments and practice in information communication and technology (Ottestad, 2008). The fact that the success of the

digital literacy approach to transformational leadership is dependent on the digital competence of the school leader, therefore, could be either a merit or a demerit based on the level of ICT skills among the school leadership. In the event that the school leadership possesses higher digital competences, they are likely to lead meaningful integration and adoption of technology in the learning and teaching practices of their institutions and vice versa. This is corroborated by Hatlevik et al. (2011) and Hadjithoma et al. (2009) who add that the success of digital literacy as a form of transformational leadership is not only influenced by the ICT competences of the school leaders but also the digital competences of the teachers in their organisations. The scholars opine that ICT competent teachers constitute a vital part of the digital transformational process in that they utilise their digital skills to challenge the established instructional roles, train their colleagues as well as lead innovations in their individual teaching practice (Hatlevik, Tomte, Skaug, & Ottestad, 2010; Hadjithoma & Karagiorgi, 2009). Thus the level of ICT competences possessed by both the educational leaders and the teaching staff in their educational context play a significant role in determining the efficacy with which digital literacy will be able to institute the sought organisational transformation and hence the need for the requisite teacher professional development efforts to incorporate the ICT literacy component.

Digital literacy-based transformational leadership ensures a technology-oriented basis for organisational change. Digitally literate leaders tend to be more ICT-oriented given their propensity to appreciate and embrace emerging technologies by continually exploring how such innovations can be integrated in their organisational contexts. ISACA (2017) states that digitally literate leaders exhibit lower levels of resistance to change and perceived risk associated with technology integration. In this regard, such calibres of leaders are able to holistically and diligently analyse the benefits of integrating technology and keeping at par with the innovations by finding a balance between the inherent value of such developments and the risk tolerance levels of their organisations (ISACA, 2017). In education, digitally literate school leaders are able to diligently and cautiously appraise the existing educational technologies, identify the ones likely to have the most value to the teaching and learning process and commence the process of integrating them in their educational contexts while ensuring all the stakeholders buy in on their vision for digital transformation. The transformational approach thus empowers school supervisors and administrators to boldly explore the most appropriate technological options for their educational contexts effectively opening them up to taking risks associated with new technologies which eventually helps transform teaching and learning and improve their schools in general.

Use of digital literacy as a transformational leadership tool in educational contexts is effective as it informs a transformation process that is more appealing and enjoyable for the stakeholders. The approach communicates to the stakeholders the commitment of the transformational leader to not only challenge the traditional and somewhat monotonous pedagogical practices and replace them with more engaging technology-oriented practices. This is paramount in the current digital age given that the 21st century

learner is more technology-savvy and hence more inclined to readily embrace instructional approaches that are technology-oriented. Hughes and Burke (2014) assert digital literacy supports the creation of an educational context that is rich in technology thus nurturing teaching and learning environments that are able to attend to the technological needs of the teachers and students in a manner that is both interesting and effective. Dacosta et al. (2013) refers to the current crop of learners as digital natives whose birth in the digital age predisposes them to being enticed by technology-based pedagogical practices effectively highlighting the importance of using digital literacy as a tool for leading digital transformation in an educational context. Digital literacy thus has good prospects of transforming an educational context as technology savvy students and digitally literate teachers find a shared passion in using modern innovations to discover new ways of engaging one another during the teaching and learning process.

A major weakness associated with the use of digital literacy as an approach for transformation leadership is that the effectiveness of the approach is contingent on the level of digital competence of the school leadership. A study by Bastos and Oliveira (2015) established the level of digital literacy among school leaders significantly impacts on both the use of technology and perceptions of students towards educational technologies. The ICT skills profile of education leaders is a good indicator of their digital proficiency and their likelihood to inspire and guide integration of technology in pedagogical practices within their educational contexts. School leaders with unfavourable ICT skills profiles may thus lack the motivation and the drive necessary to lead and manage the process of integrating digital technologies in pedagogical practices and hence their likelihood to stifle digital transformation of the institutions they lead. Digital transformation of educational institutions is only possible where school leaders have positive digital skill profiles. Use of digital literacy as a tool for transformational leadership is limiting as it pegs the effectiveness of the process to the digital competencies of the school leadership.

Whilst digital leadership skills are paramount in leading change in an educational context, access to the requisite teacher professional development and trade standards and their applicability significantly influences the efficacy of the digital literacy as an approach to transformational leadership. In his study investigating the impact that use of digital leadership by principals in elementary schools has on the digital implementation by teachers, Domeny (2017) used the International Society for Technology in Education (ISTE) Standards for teachers and administrators. Although Domeny (2017) concluded there was a weak correlation between digital implementation by teachers and the digital leadership among the school principals, the study established that the ISTE standards provided an indispensable framework for guiding teachers in the integration of digital technologies in their pedagogical practices. The study also highlighted the importance of the capacity of school administrators to lead in a transformational manner by establishing that school heads with a knack for the transformational leadership style are better placed to inspire and empower teachers to embrace digital technologies as well as nurture educational settings that promote innovation. The vast benefits notwithstanding, use of digital literacy as the basis for

transformational leadership is thus vulnerable to failure in that its success is dependent on access to and implementation of comprehensive educational technology standards for both the teachers and the school administrators.

Use of digital literacy as the basis for transformational leadership in an educational setting is valuable in that it provides a platform for empowering the community within an educational context. It achieves this by inspiring genuine collaboration among the various stakeholders thus fostering individual autonomy and the capacity to innovate and digitally solve problems. According to Santoso et al. (2019), digital technology-oriented transformational leadership plays a critical role in promoting and enhancing performance by nurturing creative self-efficacy and innovative work behaviour. The scholars found digital literacy significantly affected the interaction between performance and work behaviour and also that innovative work behaviour, creative self-efficacy and transformational leadership were significantly related. Although teachers and administrators are key drivers of innovation in educational settings, the routine nature of their teaching tasks and the dynamic nature of their supervisory activities render it difficult for them to promptly respond to the fast-evolving changes in technology. The upshot is a situation where efforts to integrate digital technology in learning activities encounter technical hitches which eventually hinder the realisation of the transformations being sought. In spite of these challenges, implementation of transformational leadership in a school setting from a digital literacy perspective helps stimulate the creative self-efficacy of the learning community with a school, elevate their collective efficacy as well as empower them to creatively solve problems and digitally perform their tasks which ultimately helps boost learner achievement. Thus, digital literacy as an approach to transformational leadership is integral in helping equip educational stakeholders with the appropriate digital competences and empowering them to exploit these skills by innovatively executing their day-to-day learning and teaching practices and the related administrative activities.

Another strength associated with digital literacy as an approach to transformational leadership in the educational context is that it helps focus not only on educational technology leadership but also on nurturing educational technology leaders who possess the traits necessary to effectively inspire and guide their institutions in the digital era. Brown et al. (2016) opine that having both the aptitude to nurture a culture of innovation, genuine collaboration and continuous learning in the dynamic digital savvy communities and the avenue for promoting awareness on how to effectively integrate educational technologies are the hallmarks of an all-round educational technology leader. A good awareness of the needs of individual stakeholders and institutions within a digital education context is also paramount. This is echoed in a study conducted by Yusuf et al. (2019) in the Malaysian educational context in which they established the importance of digital transformation leaders to not only possess but also exhibit skills and knowledge commensurate to the realities of the current day digital culture and age. If properly implemented, therefore, digital literacy based transformational leadership ought to produce educational

leaders whose focus is to optimise digital technologies integration in teaching and learning practice, manage teachers in a manner that empowers and inspires them to use technology in their classes, and who continually seeks innovative strategies for integrating technology in their educational setting.

Research Problem

Although many research studies have been conducted on digital literacy and transformational leadership, most of these studies have focused on the implementation of digital technologies in educational contexts, integration of ICT in pedagogical practices, educational technology leadership, and the qualities of digital technology leaders, none of these studies has endeavoured to establish or investigate the weaknesses and strengths of using digital literacy as an approach to transformational leadership in an educational context and the Saudi Arabian educational setting in particular.

By establishing, examining and analysing the weaknesses and strengths likely to be associated with the use of digital literacy as an approach to transformational leadership and categorising them based on their impact at the individual and institutional levels, this inquiry will be critical in helping identify the limitations of the approach and how to best mitigate them, besides clarifying the advantages of the approach and how to best optimise and exploit them.

Critical assessment of the literature

Indeed, use of digital literacy as the basis for transformation leadership in an educational setting has its merits and limitations, and this notwithstanding, effective application of this approach should be the aspiration of any change-oriented educational supervisors. As can be discerned from the foregoing review of the related literature, the strengths and opportunities inherent in the use of the digital literacy approach posit so many benefits to individual schools and educational contexts at large. Whilst digital literacy has been cast as having the capacity to facilitate the realisation of the transformations any educational context seeks, it is worth noting that mere adoption of the approach does not in any way guarantee the achievement of the positive changes being sought; what does is the establishment of structures and systems commensurate with and complementary to the envisaged transformations. It is therefore imperative that a favourable environment characterised by genuine commitment to the overarching organisational vision, a culture of innovation, and the aspiration and drive to incorporate digital technologies in all aspects of learning and teaching is nurtured. The literature also cites the level of digital competence among educational leaders as a key limitation of using digital literacy as an approach to transformational leadership. While this could be true, it is worth acknowledging that other aspects such as the accessibility and availability of appropriate educational technologies could also be a major impediment to the successful implementation of the approach. The issue of obsolescence, where an educational technology could be relevant today and out of date tomorrow thus requiring integration of a more up-to-date technology, has also been overlooked. Thus, while the literature provides a somewhat

clear picture of the current research status of this area, it is essential that a broader outlook is adopted in conceptualising and understanding issues that could be central to this line of inquiry.

Methodology

Selection and Search Strategy

The texts used for literature review were selected based on their relevancy to the research topic in that they either directly or indirectly addressed the merits and demerits of digital literacy in relation to transformational leadership. The search strategy employed entailed use of 'digital literacy', 'educational leadership' and 'transformational leadership' and their various truncated formats as the keywords and phrases where such Boolean operators as AND, OR as well as NOT were employed for purposes of either broadening or narrowing down the search results.

Databases Used

The databases searched and from which the reviewed texts were obtained include EBSCO, ProQuest, Tandfonline, SemanticsScholar, ResearchGate and EA Journals among others. The first search using the search phrase "digital literacy, educational leadership" yielded a total of 188,000 peer reviewed articles published as early as 1997 and as recently as 2020.

Exclusion and Inclusion Criteria

Bearing in mind the huge number of peer reviewed articles generated from the search, the exclusion and inclusion criteria entailed, on one hand, ruling out non-journal texts and also journal resources that did not expressly address the issue of digital literacy and transformational leadership in the educational context, and on the other hand, incorporating texts that touched on digital technology and its impact on school leadership.

Implication of the Research

By examining the weaknesses and strengths of using digital literacy as an approach to transformational leadership, the inquiry helps demonstrate how the strategy impacts on the ability of the school administrators and supervisors to guide and lead change in their educational contexts. The inquiry also assists in highlighting advantages and opportunities inherent in the use of the approach and thus facilitates consideration of how best these can be best exploited to enhance the prospects of realisation of the transformation being sought. The study also underscores the issues associated with this type of approach to school and educational leadership thus providing the basis for exploration of the potential challenges likely to be encountered and their solutions.

Discussion

Digital literacy as an approach to transformation leadership has the capacity to bring about the changes sought in the Saudi educational context. According to Brown et al. (2016), a culture of innovation, genuine collaboration and continuous learning in dynamic digital savvy communities are the hallmarks of a school context in which digital technology has a foothold. Digital literacy thus ensures access to technological resources and digital tools necessary for promoting innovative pedagogical practices as well as inspiring and leading transformation in an educational context. In the Saudi educational context, therefore, digital literacy offers an indispensable opportunity for transforming teaching and learning as well as leading meaningful change in educational administration.

Digital literacy also emerges as an approach that can be considerably effective in inspiring and motivating educational stakeholders to commit to the transformative vision of the organisation; be it at the school, district or Ministry level. Hughes and Burke (2014) reiterate the capacity of digital literacy to nurture a technologically rich educational context and a shared vision among the stakeholders. Adoption of digital literacy as the basis of transformation for the Saudi educational context is likely to make educational supervisors, school principals, teachers and other personnel in the sector more enthused with the overall transformative agenda by virtue of providing access to more exciting tools and ways of accomplishing and discharging their mandates.

By using digital literacy to promote and lead change, educational supervisors are better equipped to bridge the gap between the traditional and the current digital technology-based instructional approaches to inform positive change among learners and instructors. Dacosta et al. (2013) deem the 21st century learner as digital savvy and hence more likely to identify with pedagogical practices that are digital technology-oriented. Digital literacy thus provides the incentive necessary for the educational administrators to acquire and advance their digital competences so that they can be able to inspire educational environments that are technologically rich and learner-oriented. Implementation of the digital literacy as an approach to transformational leadership in the Saudi context thus has the potential to enable the educational supervisors to better attend to the technological needs of the teachers and students in a manner that is both interesting and effective.

Several indicators of the effectiveness of the use of digital literacy approach within the educational context can be discerned. To begin with, there is evidence of higher levels of digital competence and skills among learners and teachers and the ability to integrate the knowhow in their day-to-day learning and teaching activities. Secondly, educational supervisors demonstrate a better understanding of the technologies that are appropriate for their educational contexts and how to best integrate them in teaching and learning. Thirdly, educational supervisors play a prominent role in inspiring and encouraging the use of technology in leading changes being sought in their educational settings. Last

but not least, instructors have a better understanding of the content, pedagogy and the appropriate technology and how to best integrate them to promote learning.

Use of digital literacy to bring about transformation in the educational context is however faced with several challenges among them: the fact that its success is contingent on the digital competence and skills level of the various stakeholders; the indifference of older teachers to innovative and digital-based instructional approaches; limited access; and the wide digital awareness gap between teachers and learners.

Findings

The strengths pertinent to the use of digital literacy as an approach for transformational leadership in schools outweigh the related weaknesses by far. Digital literacy as transformational leadership tool is the hallmark of inspiring and leading positive change within an organisation given the significant influence it has not only on student learning but also on instructor teaching and consequently on the resultant learning and teaching environment. The approach also ensures a technology-oriented basis for organisational change thus rendering the transformation process more appealing and enjoyable for the stakeholders which guarantees its success. It also provides a platform for empowering the community within an educational setting by inspiring genuine collaboration among the stakeholders. This helps foster individual autonomy and capacity to innovate and digitally accomplish daily tasks. Digital literacy also helps focus not only on educational technology leadership but also on nurturing educational technology leaders who possess the traits necessary to effectively direct and guide their institutions in the digital era.

Nonetheless, the effectiveness of digital literacy as an approach to transformative leadership is dependent on the self-efficacy of the educational leader or supervisor vis-à-vis their digital competence. The digital competence of the educational leadership is a major factor in determining how well the approach is implemented in an educational setting and hence the need to ensure educational administrators entrusted with the process possess the requisite skills. Also, whilst digital leadership skills are paramount in leading change in an educational context, access to the requisite professional and trade standards and their applicability significantly influences the effectiveness of the use of digital literacy as an approach to transformational leadership.

Recommendations for future research

The foregoing critical analysis of the use of digital literacy as an approach to transformational leadership draws attention to the issues associated with this type of school and educational leadership effectively offering insight into the strengths and weakness associated with the leadership style. This helps lay bare the intricacies of leading and guiding transformation in an education context and even more

specifically the issues educational administrators and supervisors have had to contend with in their efforts to lead change in their educational institutions. The analysis thus provides an indispensable basis for empirical exploration of the potential benefits and challenges that accrue from the use of digital literacy as an approach to transformational leadership in a given educational context and the likely solutions to the hurdles encountered. Future research on the topic could also seek to establish the extent to which digital literacy as a transformation leadership technique is able to facilitate the realisation of the vision and goals of an education context; and the correlation between the technological awareness and ICT competency levels of educational supervisors and their ability to employ the approach to lead, direct and inform the desired transformation in an educational setting.

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