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Are Headmasters Digital Leaders in School Culture?

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Abstract

This study investigates the metaphoric perceptions and digital roles of 60 headmasters working in primary and secondary schools. This study is significant as it reveals the awareness of headmasters with regard to digital leadership and thereby considers the adoption of communication technologies and digital management into school culture. Qualitative research was employed in the study to capture inductively the perceptions and roles of headmasters in the framework of a case study approach. Self-reports in three sections provided large amounts of data on how headmasters perceive digital leadership and its differences to traditional leadership. The volunteer participants revealed these differences using metaphors. Thematic analyses were used to examine the data. The results showed that the headmasters have awareness of both digital leadership and technological developments. However, there is no immediate practical implication regarding school culture and learning environments.

Keywords

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Introduction

The integration of information communication technologies (ICT) and initiation of the technological shift to the leadership and learning environments of schools are a significant part of strategic plans in developing countries' education systems. Increasingly, the adoption of technological developments and applications such as tablet PCs, mobile learning and flipped classrooms, are becoming an inevitable requirement in the development of contemporary standards in education and the provision of equal learning opportunities to learners in primary and secondary schools. However, the development and diffusion of these interactive learning environments depends to a large extent on the awareness and readiness within the education system and the awareness of headmasters responsible for technological developments within the school culture.

Furthermore, ICT integration is not only fostering learning environments. It is also an alternative means of increasing the partnerships between schools, and collaboration between teachers and families in order to facilitate a better functioning of school activities at every level.

In the digital age, both leadership and the learning environment play an important role in the digital environment with regard to fostering learning, developing leadership itself and building networks that through the new technologies are reconstructing knowledge even across borders. The question thus arises as to how headmasters as digital leaders in developing countries lead and cope

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with changes when there is a shift from traditional leadership and traditional learning environments to digital leadership and digital learning contexts.

Integration of the technology to the society and education system, transformation has started. Significantly, learning and teaching environments are transforming to meet the needs and voices of the learners within a framework of lifelong learning philosophy. Learning in everywhere and any time shows how education practices need to offer equality, access and oppurtunies of open education and resources. In this transformation, technology supported learning environments create a bridge for open, access and equality (Edwards, 2015). Therefore, digital management and leadership become a comprehensive look for internatlization of tranformation in school culture.

In school cultures, digital technologies forces leaders to establish a vision of effective use of technology. In this respect, leaders face with challenges how, why and when to use digital technologies. Digital leadership is not only use of technology; it is a strategic view of school culture to engagement and achievement. It is new construction of leadership that they are connected with technology. The study of Salmon and Angood (2013) state for collaboration and integration of digital technologies to an organizational change and e-leadership. In addition it is seen that how technology effects pedagogy.

The ability to develop knowledge and computer literacy depends on skills such as asking the right questions, locating the correct knowledge, identifying and solving the right problems, evaluating knowledge sources and critical thinking. The literature (Goodfellow, 2011; Starkey, 2010) points out that mobiles, tablets and virtual classes and flipped learning environments all support the acquisition of such skills. Further, the same technologies and applications, including social networking tools, provide strong communication links for leaders to foster personal and professional knowledge (Almås & Krumsvik, 2007; Starkey, 2011). However, there is a gap in knowledge as to how to cope with and lead the digital developments in school management and diffuse these practices into learning environments.

In learning organizations, continuous improvement and learning are increasingly integrated with technology and the role of leaders in the digital age in diffusing and sharing knowledge is now an important leadership attribute (Tillema, 2005). Hence, in the school setting, opening a wide spectrum of opportunities for integrating technology into the lifelong learning process and professional development is essential. It is crucial to consider headmasters as change agents in adapting to the digital age (Delanty, 2003; Williams and Sheridan, 2010). For management in schools and learning environments in classes, technology has become a prime medium of continuous learning and knowledge construction and reconstruction (Williams, 2008; Marais, 2011). The new technological shifts and tools, including mobile learning, flipped classrooms and social networking tools clearly impacts on the changing roles of headmasters as leaders. The new synergy of connectives reflects both potential connections and chaos for a learning and activity theory which proposes technology as a foundation for knowledge sharing, and communication in order to increase quality and productivity in leadership and learning (Marais, 2011; Transue, 2013). In this respect, it is essential to realize the significance of the management process, which requires participation, communication and negotiation in allocating tasks and accomplishing tasks in the digital age (Kalargyrou & Woods 2009). Within the management process, learning is the feeding tool to enable adaptation to changes in digital age. Leaders need to embrace technological change to diffuse, share and practice it in managerial activities. Integrating ICT developments in digital learning environments can provide success only if infrastructure, awareness, equipped teachers, and leaders can cope with these changes in the digital age.

The study of Kalargyrou and Woods (2009) defines leaders as persons whose acts affect other people more than other people's acts affect them and states that leadership occurs when one group member modifies the motivation or competencies of others in the group, (Kalargyrou & Woods 2009, p. 22). This study proves that if leaders adopt technological changes, and are ready to diffuse them in managerial communication, sharing and integrating them in learning environments, then technology can enhance leadership ability and learning environments.

Leadership has been defined in many ways (Hammersley-Fletcher & Brundrett, 2005; Hendricks & Payne, 2007; Mullen & Jones, 2008; Taylor, Martin, Hutchinson, & Jinks, 2007) and may incorporate doing what you think is the correct thing to do through cooperation, the sharing of an idea or a vision with everyone in an organization or with a group of people or a team, and involving a process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task or guide others toward a common goal.

The integration of ICT to the education system and management process has changed the status of leadership to digital leadership, and the leader has become an agent of digital culture attempting to create a digital culture often with limited time and resources, but with the need to act in an efficient way in the face of changing global standards.

The study of Teare (1998) framed the attributes of leaders with regard to technological impact on culture and its management implications. The study focuses on leaders adapting to continual change; listening and responding to identified issues; being mindful of the future; planning a culture that values learning; having a clear sense of vision; possessing strong communication skills; displaying a sense of sincerity and confidence; having the ability to motivate through personal energy. It also provides a theoretical stance on how leaders reflect their stated roles in the digital age.

The study of Sherry and Gibson (2002) focuses on the roles of leaders:

- leading effectively and sensitively in a diverse and complex context; this includes such issues as: timely and informed action in resolving conflicts and problems in professional settings
- reflective practice in professional contexts; professional development and lifelong learning; a systems approach to problem solving in complex, dynamic, and unstable environments;
- reflecting upon the capabilities and expertise of practitioners; mutual support for the growth and development of others; contextualized authentic assessment of self and others; information management and problem solving;
- applying relevant theories to practice; long-range planning; theory-based, data-driven, team-oriented continuous improvement processes; information and communication technology in the leadership process;
- maintaining effective interpersonal relationships; integrating classroom learning experiences with 'hands-on' field-directed activities; authentic problems of practice and situated learning; data-based decision making; the educability of students; the inclusion of all members into the school community; a willingness to continuously examine one's beliefs, values, and assumptions; the benefits that diversity brings to the school community; a safe and supportive learning environment, and schools operating as an integral part of the larger community.

Regarding these many activity types, the question obviously arises of how leaders cope with these roles in the digital age in relation to technological applications in communication, sharing and managerial levels. Practicing traditional leadership skills and converting those roles and skills to a technologically-mediated environment creates a layer of complexity in developing countries, requiring digital leadership to be examined as regards the appropriate roles, skills and behavior in line with new applications of ICT. Success in leading and diffusing knowledge into the system and learning environment needs to be particularly closely investigated in developing countries.

In the school system, teachers and leaders need to practice new technologies in order to enhance learning and their profession. Being digitally proficient is important for leaders in order to manage information and resources in decision-making and then transfer these resources and skills to teachers and students within a cycle (Law & Cole, 2013). Creating digitally able citizens in the digital age is the essence of digital leadership in schools. The headmaster needs to function as an ICT coordinator, supporting teachers' use of ICT, and being a policy maker with leadership and vision. Further to this, digital leaders are responsible for professional development activities, development of infrastructure, and motivating the use of ICT to support teaching and learning (Meyers, Erickson, & Small, 2013). Headmasters as digital leaders need to be models for ICT integration in the education system, acting as innovators, helping overcome resistance and building commitment within the school culture.

Digital intensity and transformation of management intensity change the vision of leadership and it effects education to reconsider the digital leadership. Leadership is defined in the digital age as an interaction with information technologies. Although research studies indicated that information technology effects leadership (Salmon, 2005), they stay partial how leaders in education adapt with information technologies as being digital leaders (Avolio, Kahai & Dodge, 2001). In this research study, adaptive structuration theory is considered to analyze the relevance of leaders to information technologies.

In the diffusion of knowledge and technology supported learning environments, there is a significant need to capture management and leadership skills within a strategic plan for educational practices. The management, leadership and planning roles of the headmasters have a great role to adopt tranformation in school culture. In the tranformation of the educational practices through digital technologies, access, equality and innovation are critical success factors for the quality and standards.

In this respect, this research aims to investigate the differences between traditional leaders and digital leaders who have leadership status, computer literacy and digital learning awareness. The following research questions will be considered during the process:

1. How do headmasters perceive digital leadership?
2. How do headmasters differentiate between traditional leadership and digital leadership?

Methodology

Exploring peoples' experiences, intentions and responses in educational settings is significant for educational professional practice as it provides insights into interconnected, interpretive practices. Qualitative research design encapsulates inner perspectives, and provides soft data which covers the key concepts of meaning, common-sense understanding, definitions of situations, and social construction within an inductive process (Bogdan & Biklen, 1998; Kuter, Altınay Gazi, & Altınay Aksal, 2012). It is crucial to understand how meaning and experiences, and perceptions are constructed in a reflective process (Creswell, 2003). Thus, a qualitative research paradigm was chosen as an appropriate research design for this study (Denzin & Lincoln, 2003).

As a case study aims to explore an issue or problem of specific concern, a single case study was a legitimate tool for examining how headmasters in developing country perceive digital leadership for school culture and interactive learning environments (Yin, 1994).

Participants

The participants of the study included sixty headmasters in both secondary and primary schools in North Cyprus. North Cyprus is a developing country where technological infrastructure is being developed for the improvement of teaching and learning. As schools are based on a centralized system, headmasters are working for the Ministry of Education. Whilst new changes and developments are intended to feed the education system through the support of technology and act as

a bridge for the country to overcome restricted policies and develop the standards of digital age, in practice economic restrictions limit the investment in technological infrastructure, and cause difficulties for those wishing to follow emerging technologies and adapt them to school systems. Headmasters have a significant role in applying for funded projects in order to change the school infrastructure and then innovate and diffuse those technologies into the system. This research study thus emphasizes the awareness of the headmasters as regards their role as digital leaders in technology integrated learning.

Purposive sampling was employed in which 60 volunteer headmasters out of 150 voluntarily participated in the process. For ethical reasons, official permission was obtained from Ministry of Education. Data collection techniques, the research focus and research procedures were examined by a committee in the Ministry of Education and an official letter of permission granted. The data was verified and confirmed by research participants and they became informed through meetings.

Data Collection Techniques and Analysis

A qualitative data collection instrument – a self-reflection report was used for the in-depth examination of the research focus in this research study (Denzin & Lincoln, 2003). This instrument helped self-evaluation by headmasters of their leadership roles in the digital culture. Ensuring trustworthiness and utility is critical in data collection and analysis. The self-report included three sections: leadership abilities, effective leadership roles and defining leadership through metaphors. These sections have been reviewed by two experts before implementation. Content-thematic analysis was employed to interpret the self-reflection reports by considering significant key themes in relation to the research focus and questions (Altınay & Paraskevas, 2008). Coding through themes was rechecked by other researches to increase credibility of the research. Further to this, frequency analysis was conducted through SPSS 17.0. The implementation of the qualitative data and collaborative data analysis procedures helped the cross-examination and verification of the data (Kuter et al., 2012).

Findings and Discussion

Research findings shed light on how the 60 volunteer headmasters perceive and act with regard to leadership in a digital culture. Almost all of them reported that they have awareness of digital leadership but that they need further training and technological infrastructure to use and delegate to others using emerging technologies in learning and school improvement.

With the development of emerging technologies for continuous improvement of personal and organizational skills, visionary leaders need to implement new technologies in organizations. The leadership abilities required are adaptation to continual change, being proactive in problematic situations, being visionary, giving a sense of value to learning and development, strong communication skills, self-control and management skills and intrinsic motivation. Almost all volunteer participants (93.3%, N:56) reported that they have these abilities, which shows they have awareness of the movement towards digital leadership in the digital age. However, almost all participants underlined that there is a limited opportunity to implement digital leadership abilities due to lack of training and technological infrastructure.

Adapting to continual change is a key attribute in the digital age for the construction of knowledge. In order to reconstruct knowledge, accepting changes and being flexible in information gathering is essential. In this respect, 85% (N:51) of headmasters had the attribute of adapting to continual change. However, 15% (N:3) of headmasters had no belief in adapting to continual change. As a leader, listening and responding to identified issues is a critical step for being mindful of the future and planning a culture that values learning. 90% (N:56) of headmasters agreed that listening and responding to identified problems and issues was essential. Further, 75% (N:45) of headmasters had a clear sense of vision regarding their school practices and strong communication skills whereas 20% (N:18) did not. In terms of developing the attributes of digital leadership, 95% (N:58) of headmasters showed a sense of sincerity and confidence and the ability to motivate through personal energy. In the digital age, it is obvious that technology has numerous practical implications. Therefore,

it is essential to use technology in every discipline. To be an effective leader, it is important to integrate technology into the communication networks to share, exchange and construct knowledge within a shared vision. There are a number of characteristics that signify how to be an effective leader, including: being effective in a complex environment, punctual in problem solving, reflecting on experiences and thinking systematically and critically, supporting others' development, supporting personal and professional evaluation, implementing theories into practice, planning long term actions, organizing activities for team work and continual development, using information technology in the leadership process, providing quality communication links among groups, providing for the inclusion of all stakeholders in activities, implementing scientific activities, delegating and developing a supportive learning environment, and creating a model school in the information society. Almost all volunteer participants reported that they have all these characteristics. Where they have difficulties is in managing consistent, clear lines of discipline, motivating others and allowing others to join groups. Most of the headmasters perform these activities using technology. The results shows that most of the headmasters reflected that technology could be a significant element to foster personal and professional development at every level.

Table 1 below demonstrates how digital leadership can become functional according to the headmasters' experiences.

Table 1. Roles

Roles	**Frequencies**
Being effective in complex environment	(N:45) %75
Being punctual in problem solving	(N:52) %86.6
Reflecting on experiences and critical thinking	(N:46) %76.6
Having systemic thinking	(N:32) %53.3
Supporting others' development	(N:47) %78.3
Supporting personal and professional evaluation	(N:52) %86.6
Implementing theories into practice, planning long term actions	(N:33) %55
Organizing activities for team work and continual development	(N:42) %40
Using information technology in leadership process	(N:38) %63.3
Providing quality communication links among groups	(N:44) %73.3
Providing for inclusion of all stakeholders to the activities	(N:32) %53.3
Implementing scientific activities	(N:28) %46.6
Delegating and providing a supportive learning environment	(N:46) %76.6
Creating a model school in the information society	(N:52) %86.6

In the digital culture, experiencing digital leadership is inevitable. Roles such as consistent and reliable discipline, giving informative feedback, motivating others, considering ethical and scientific rules in decision making, planning mission and vision, negotiating on time, consulting group members in decision making, developing trustwithin the organization, and digital literacy are vital to cope with the changing digital culture. In this respect, almost all headmasters reported that they have awareness of those roles but however are only partially able to implement the required changes. The volunteer headmasters showed self-awareness on digital leadership in this study which shows how digital leadership is growing in inspiration and developing a digital culture within a developing country.

The headmasters reflected their perceptions on the differences between traditional leadership and digital leadership through metaphors in their self-reflection reports. This exercise has the potential to show how headmasters perceive digital leadership roles and abilities and provides indications of their awareness, adaptation to and reflections on the digital age. In this regard, they characterised the attributes of digital leaders as: flexible and open to change, moderators, and followers of new changes. Further to this, they pointed out that digitally orientated headmasters would have awareness of continuous learning, clear vision, the ability to integrate technology into school activities, and would exploit technology as a tool for collaboration, and efficient as a problem-solving mechanism. Contrary to this, the headmasters defined traditional leadership as structured, as about obeying rules and laws, having a closed vision and not giving importance to contemporary changes.

In terms of metaphors, headmasters characterised digital leadership through computers, projectors, smart boards and the internet, which signified school development based on new technological innovation. They also compared digital leadership to mobile phones and cameras to underline the diffusion of information and knowledge. Further to this, they defined a digital leader as a captain who never loses his way. In gaining fast, reliable and different knowledge, digital leadership was defined as a submarine. The headmasters described digital leaders as organizers who follow modern technology to reconstruct knowledge. Significantly, the headmasters used these metaphors in order to reflect how digital leaders need to be planned and economic in their use of technology for school improvement. The headmasters also noted that digital leaders embody a scientific and realistic approach to problem resolution. Finally, the headmasters defined digital leadership as a good criterion for performance evaluation within a collaborative framework, suggesting that the use of technology is a critical indicator for work performance.

Conclusion and Recommendation

Information, technology and communication are the essence of the digital society. Knowledge becomes constructed and transformed through the integration of technology. In this respect, the transition to a digital society has changed the roles of citizens through these same processes of knowledge construction and transformation. ICT tools have changed the structure of leadership and leaders have become digital leaders who embody a dynamic mix of skills (Bonnett, McFarlane, & Williams, 1999; Orlando, 2009).

As technology requires a collaborative learning and working environment, leadership is more and more informed by the ability to inspire and influence others to participate in a new type of collective practice that is team-based and empowered and rooted in the knowledge sharing that is promoted by digital tools (Loveless, 2007). Digital technologies play a great role for leadership that effect program, instruction and behaviors. In addition, digital leadership relies on sustainable changes that foster school culture based on digital technologies. Communication, public relations, branding, student engagement, professional growth, learning spaces, opportunity are integrated by digital technology that digital leadership has a power for sustainable change of the school culture (Sheninger, 2014).

This research study sheds light on how headmasters perceive digital leadership. The metaphorical interpretations of leaders have enlightened perceptions regarding the differences between traditional and digital leadership. As leaders experienced the use of digital tools and ICT integration in the learning cycle, the research study fosters the view that headmasters are aware of the importance of digital leadership and adaptation to the digital age (Collinson & Cook, 2004). They have a firm belief in the benefits of digital leadership, explained metaphorically through the notions of captain, organizer, smart board, and mobile phones, metaphors that emphasize their commitment to collaboration and innovation.

Transformation is essential to set the quality and standards in the education. Education for the future needs to be started with the transformation of roles, skills of students, teachers and headmasters in order to adopt them to the digital technologies and technology supported learning environments. In this respect, openness, access should foster lifelong learning and digital management. Education for everyone is essential and there is a need for the future education to acquire openness and accessibility for everyone. In this respect, being digital leaders for the future education is essential for the quality and innovation.

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