1. Introduction

Laura Hyatt and Stuart Allen

The growing number of programs and the more recent inclusion of leadership courses within varied postgraduate disciplines provide evidence of rising interest in doctoral leadership education over the past 15 years. Technology plays a significant role in doctoral leadership studies, providing a channel for teaching, learning, research and administrative processes. Existing and new programs seek to leverage technology-mediated learning, especially through the internet, in order to provide access, convenience and enriched learning, and to develop new pathways to achieve a doctorate. In this context, technology applied in doctoral leadership studies requires further exploration and serves to benefit students and society through innovative programs and learning designs. It is a fruitful time to ask questions about the benefits, challenges and needed solutions to prepare for the future design and delivery of postgraduate leadership education. This includes examining how new and changing technologies will impact doctoral students, faculty and the university milieu.

Much of the education and technology literature addresses K-12 or higher education in general. In the recent decade there has been exponential growth in the use of technology for teaching and learning in graduate and postgraduate education. While some research has been published relative to technology and graduate courses, less focuses on technology and postgraduate education. There is also a paucity of writings specific to technology-mediated doctoral leadership studies. Various aspects are similar in both graduate and postgraduate education such as critical thinking expressed through digital assignments or products, while others are unique to the degree level. For instance, during the course of a doctoral program in leadership, students gain knowledge, but they also undergo a metamorphosis of identity as they become doctors (Danby and Lee, 2012). The technology-mediated doctorate adds unique nuances to this identity, including the development of technology competence and the ability to work and lead virtually. While technology-mediated learning has impacted all professions and areas of study (Vaughan et al., 2013), for doctoral leadership programs the benefits of technology-mediated learning are not just

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conveniences such as reduced time on the physical campus, but also include the awareness and skill in working and leading in various technology-mediated contexts. Leading through technology-mediated communication is an increasingly relevant skill in globalized and technology-dependent organizations.

CONTEXT

The technology-mediated learning environment is no longer just a context in which students engage in learning about leadership, but also one in which they learn to lead in technology-mediated environments. Knowledge objects, enactments and products (Danby and Lee, 2012) of postgraduate work (for example conversations, writing and presentations) are also transformed in the technology-mediated programs. The ability to facilitate a conversation late at night with diverse and geographically distributed colleagues who are tired from their professional day at work is a unique enactment of advanced learning. This evolution aligns with the emergence of e-leadership (Avolio et al., 2014). Coordinating work, communicating, researching, networking and presenting are some of the many areas of technologically transformed enactments that were once practiced only in face-to-face classrooms. Adult learning principles (Knowles et al., 2015) are especially relevant for the postgraduate student as the technology-mediated learning context provides numerous opportunities to tailor learning experiences suited to working adult professionals. Leveraging new technology to match the needs of adult learners is one of the challenges faculty face.

Universities in the US and internationally continue to develop, revise and expand the number of doctoral leadership programs. Along with the growth in leadership programs, the number of leadership courses incorporated in diverse postgraduate fields has also increased. In addition to programs that are specific to the discipline of leadership, courses in leadership are included in the fields of business and management, communication, education, entertainment and arts, healthcare, information systems and technology management, non-profit, public policy and government, science and engineering, and numerous other social science and professional doctoral degrees. Advances in technology provide a vehicle to deliver content and information to a wide array of learners. With more than two decades of experience in delivering doctoral leadership education through technology, it is a fertile time to examine what has been learned and to explore future possibilities.

One prime example that entreats examination is the variation of terms and definitions associated with technology-mediated teaching and

learning. Two terms, blended and hybrid, are used interchangeably by some institutions, while other institutions argue that these terms are not synonymous. To confound matters further, there are varied definitions attached to each of these terms. For instance, Garrison and Vaughan (2008) describe blended learning as: 'The basic principle [of blended learning] is that face-to-face oral communication and online written communication are optimally integrated such that the strengths of each are blended into a unique learning experience congruent with the context and intended educational purpose' (p. 42). Still, other authors attribute percentages of time necessary for a course to be considered as blended learning: 'blended courses are defined as those that combine in-class and online instruction with 30% to 70% online content' (King and Arnold, 2012, p. 1), whereas Allen and Seaman (2004) write: 'Blended education courses are defined as having between 30% and 80% of the course content delivered online' (p. 4). Our examination of doctoral leadership programs that increasingly include technology-mediated learning and communication shows that multiple different labels are used.

CONTENT

The intent of this book is to generate a dialogue about emerging technology-mediated doctoral leadership education including current challenges, potential solutions and future possibilities. An accomplished group of authors contributed to the contents of this book which are distributed in three sections: Part I: Discovery: introduction and context; Part II: Design: learning applications; and Part III: Delivery: across disciplines, courses and borders. The following are brief introductions to the peer-reviewed chapters included in *Advancing Doctoral Leadership Education Through Technology*.

Part I: Discovery: Introduction and Context

Chapter 1: Introduction by Laura Hyatt and Stuart Allen
Technology plays a significant role in doctoral leadership education providing a channel for teaching, learning, research and administrative practices. In this context, technology applied in doctoral leadership studies requires further exploration and serves to benefit students and society through innovative programs and learning designs. This chapter familiarizes the reader with the content and structure of the book. This is followed by an introduction to each of the chapters and their respective authors. The recent shifts in doctoral education and technology invite a

conversation about pedagogical philosophies, processes and policies to consider regarding learning environments and practices that will facilitate the future of postgraduate leadership education.

Chapter 2: E-leadership: an essential part of doctoral leadership education by Surinder Kahai

It is important to include e-leadership in doctoral leadership studies. Learning about e-leadership will contribute to students' development as future leaders, teachers and researchers. In addition to being comfortable with the content of e-leadership in order to be able to deliver it in the classroom as future academics or as leaders in organizations, doctoral students will need to be capable of thinking about the dynamic relationship between technology and leadership in order to make it more relevant. Mere acquaintance with e-leadership will not suffice and inclusion of this topic in students' studies will help them to develop a deeper understanding of e-leadership. Future doctoral research in e-leadership is also discussed.

Chapter 3: Into the new: a creatively focused and technology fluent (CFTF) mindset for emerging doctoral contexts by Danah Henriksen and William Cain

To develop creative leaders in online and hybrid contexts, programs and coursework must provide learning opportunities using the creative and technological affordances of the medium, while also maintaining the strengths of existing scholarly norms. The chapter authors reason that online and hybrid doctoral programs require a creatively focused and technologically fluent mindset on the part of faculty instructors and other program stakeholders. The authors also describe the context for change in emerging opportunities for online and hybrid doctoral studies, and propose a creative and flexible mindset for instructors, designers and developers in such programs. This chapter covers theoretical foundations in creative thinking, openness, and willingness to experiment or engage with the new.

Part II: Design: Learning Applications

Chapter 4: Beyond cybernation: technology and teaching in doctoral educational leadership by Stephanie J. Blackmon

This chapter focuses specifically on three currently used technologies in doctoral educational leadership classrooms: social media, blogs and virtual worlds. A major premise of this chapter is that the relationship between technology and its users is dialogical. Furthermore, these exchanges are value laden. Therefore, the examples of technology provided in this chapter will move beyond cybernation and not only address the complex

exchange that occurs when educational leadership instructors and students employ various technologies (the unidirectional relationship of user to technology), but also address ways to mitigate that complex exchange.

Chapter 5: Selecting and implementing technology in support of doctoral curriculum and program management by Bruce E. Winston

This chapter presents the challenges of scoping, aligning, acquiring and implementing educational technology to meet hybrid and online doctoral leadership program needs from the program administrator's perspective. Program administrators need to select, implement and train faculty and staff on the right technical systems that meet students, faculty and staff needs, and align with the university's goals and objectives. The right technical systems are those that provide benefits for the recruitment and retention of students, efficient operations, and quality improvement. To accomplish this, it is essential that program administrators follow strategic foresight principles of scanning, forecasting, trend analysis, cost–benefit analysis, training, and performance appraisal – before and after implementing new technology and evaluating upgrade requirements.

Chapter 6: Informal and experiential learning in virtually mediated organizational leadership doctoral studies by Elisabeth E. Bennett and Margaret Gorman

Informed by virtual human resource development (VHRD), this chapter discusses informal and experiential aspects of doctoral leadership programs that dovetail scholarship and practice, as well as the question of transferring learning from the doctorate to the organizational context. The chapter includes discussion of leadership in practice, the relationship between virtual doctoral studies and such constructs as virtual teams, course design that incorporates experiential components, and maintains that empirical research in the doctoral program is a highly experiential learning encounter that transforms the individual leader and potentially transforms how organizations solve future problems.

Part III: Delivery: Across Disciplines, Courses and Borders

Chapter 7: Online doctoral programs: a call for caring educators by Cynthia J. Brown and Delene Volkert

As doctoral programs evolve into online settings, how can educators best support students? The online format may be a course or program that has a hybrid structure with some online and some face-to-face aspects, or courses and programs that are completely online. In this chapter, nursing faculty discuss caring, highlighting caring communication between

students in the course, between faculty and students, and between faculty, particularly those co-teaching a course. Case studies and the experience of the authors are intertwined throughout the chapter to provide the reader with examples of caring communication in the online, doctoral education setting.

Chapter 8: Social media identity in doctoral leadership education: SMILE by Jackie Bruce and Sara Brierton

This chapter looks at three general leadership arenas: the self, groups and teams, and organizations. Within these arenas, the chapter discusses the key components of leadership and explores the development and role of a social media identity (SMI) in each case. The priority is to help students determine their SMI needs. The authors present an approach to formulate a Social Media Identity in Leadership Education (SMILE). It is appropriate in the world of 'like', 'share', and 'retweet' that a SMILE has a place. Enhancing and improving work, professional relationships, and sense of self through social media is a goal for doctoral leadership students and practicing leaders.

Chapter 9: Beating anxiety and building community: best practices for teaching doctoral research methods and statistics online by Leslie Dinauer

This chapter shares some of the insight that emerged from the experience of teaching statistics including the appreciation for the role of each student's individual orientation to the material, to the classroom – both affectively and cognitively – and to the faculty. The chapter addresses the need to deliberately build a statistics course within an online doctoral program, as opposed to allowing instructors to simply reproduce the face-to-face coursework. Next, statistical anxiety is examined as a fundamental force to be conquered within the classroom, followed by the best practices that emerge from these understandings.

Chapter 10: Teaching leadership research courses online at the doctoral level: why we do it and how it works by Jennifer Moss Breen and Jim Martin

This chapter shares practices, challenges and ideas concerning teaching leadership online at the doctoral level. Specifically, the chapter addresses the process of implementing a series of reforms for teaching critical thinking skills in online research courses. The authors discuss how to ensure that students get the same experience across multiple sections of a course, and that academic expectations for full-time and adjunct faculty are aligned. This chapter offers a broad overview of online teaching and provides practical, hands-on tips for those new to teaching in the online environment.

Chapter 11: A technology-based glocal perspective for teaching in doctoral educational leadership programs by Emmanuel Jean-Francois

The evolution of globalization, as well as other factors such as rapid technological changes, demographic shifts, migration, new forms of communication and interactions, and environmental and social challenges have served as drivers fostering the demand for new skills and competencies expected from university graduates by employers and other stakeholders. The purpose of this chapter is to articulate a technology-based glocal perspective for teaching doctoral educational leadership programs. This chapter is informed by the transnational and glocal education frameworks, and includes key insights for practitioners to contribute to glocal teaching and learning in leadership education through technology.

Chapter 12: Integrating doctoral research and teaching with technology: a case from a Finnish business school by Peter Zettinig and Katja Einola

Education is becoming a field where universities fight for the best students and sometimes existence, and PhD students compete against each other for scarce jobs. In such an environment, how do educators build a relevant doctoral training program to prepare a future generation of educators and researchers capable of conducting meaningful social research and finding their place in the volatile job market? In this chapter, faculty from Finland discuss how the use of technology-mediated communication enabled them to turn a master's level international strategy course into a shared laboratory that combined completion of doctoral research, teaching, course design and coordination, and assisted students to acquire practical leadership skills.

Chapter 13: E-mentoring in a technology mediated world: implications for doctoral leadership education by Sean Robinson

The purpose of this chapter is to explore the role of mentoring within online doctoral leadership education, with attention directed to the benefits and role of e-mentoring as a way to help aspiring leaders (doctoral students) develop the necessary skills and mindset for effective leadership. Given the shifting landscape of communication processes coupled with the exponentially changing world of computers and technology, considering the role of e-mentoring for leadership development within doctoral education is timely and needed.

GENERATING A DIALOGUE

Whether focusing on pedagogical philosophies, processes or policies, discovering priorities in research related to technology-mediated learning

environments will facilitate better programs and beneficial learning for postgraduate leadership students. While not entirely unique, leadership students represent varied professional disciplines and will experience new challenges as technologies evolve that can be better understood and considered in curriculum and program design. The need for global competence is increasingly relevant as faculty often employ technology to teach students across borders, multiple time zones, cultures and environments. In addition, students in postgraduate leadership studies compete for attention with many other activities that place demands on working adults, where technology can encourage curiosity and learning.

This book is about questions rather than answers. It is intended to share ideas and spark conversations among doctoral faculty, administrators and students about how the future design of doctoral leadership studies would best serve students and the organizations they will lead. Research indicates that leadership occurs in relationship with others (Cunliffe and Eriksen, 2011; Gergen, 2009; Hosking, 2007; Uhl-Bien, 2006). While technology has increased efficiencies, how might we use technology to develop the way we lead and improve organizational relationships? What teaching and learning tools would be useful now? And in the future? How will technology impact the future design of research and dissertations? The increasing role of technology-mediated learning also has implications for academic leadership and policy, introducing unique challenges for higher education administrators. The aforementioned issues are among many topics this book explores, making the contents valuable to doctoral faculty, chairs and directors, administrators, higher education researchers, and students engaged in learning and research in higher education and leadership programs.

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