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Marshall, Stewart; Kinutia, Wanjira & Taylor, Wallace. (2009). *Bridging the Knowledge Divide: Educational Technology for Development*. Charlotte, NC: Information Age Publishing.

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The digital divide between those who have ready and reliable access to information and communications technology for work, learning and play, and those who do not, has been of concern for decades. Why? The creation, distribution, utilization and manipulation of information using high-speed networks are known to have major political, social, economic and cultural implications.

A major global concern is the knowledge divide - "What really matters in the new age," Jane Gilbert (2005) argues, "isn't information at all. What is really significant are the relationships between people, and between people and organizations, that are made possible by the new modes of communication" (pp.120-121). As Friesen (2007) argues, Gilbert (2005) does not shy away from acknowledging what

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many academics decry: knowledge is "the primary source for all future economic growth" (Gilbert, 2005, p.25). Theories, models and ideas about knowledge contributed to economic growth in the Industrial Age and then the Information Age. And now, Gilbert (2005) argues, the world has changed—and outmoded conceptions of knowledge, minds and learning based on information delivery no longer serve a world that needs new understandings of knowledge, itself (Friesen, 2007).

Helping people to learn is the primary and essential purpose of any educational technology (Janusewski and Molenda, 2008). Certainly, the field of educational technology has shaped and has been shaped by "increased awareness of the difference between the mere retention of information for testing purposes and the acquisition of knowledge, skills and attitudes used beyond classroom walls" (Janusewski and Molenda, 2008, p. 4). As our theories about knowledge have changed in concert with rapid advancements in educational technology, the field needs to consider the political, social, economic and cultural implications for learners and for learning in diverse international contexts.

A question that the field needs to ask is, what is the role of educational technology in delivering flexible education for community development? The growing reliance on the Internet for collaboration, sharing, creating and communicating knowledge in developed contexts exists in sharp and painful contrast to the paucity of meaningful and reliable access to the Internet in many developing contexts. In many international settings, developing economies are declining or are in danger of declining as the digital divide becomes a knowledge divide. This decline can disrupt the very fabric of community cohesion and purpose for regional societies as they struggle with increased social, health, economic and sustainability problems. In this recent book, *Bridging the Knowledge Divide: Educational Technology for Development*, editors Stewart Marshall, Wanjira Kinuthia and Wallace Taylor have assembled twenty-four chapters in their attempt to provide some answers to the problem of providing flexible education for community development using educational technology.

The editors come from diverse international contexts and bring diverse backgrounds to this endeavor. Stewart Marshall, PhD, is currently a Director of Academics at the University of the West Indies Open Campus and holds the UNESCO Chair in Educational Technologies. Wanjira Kinuthia, PhD, is an assistant professor of Learning Technologies at Georgia State University, and Wal Taylor, PhD, is the Director of The Information Society Institute (TISI) in South Africa and a special advisor to the Institute for the Study of Digital Inclusion in Florida, USA. The publisher, Information Age Publishing, is a social science enterprise that provides a comprehensive list of academic and scholarly book series and journals [http://www.infoagepub.com/about.html].

Marshall, Kinuthia and Taylor (2009) describe the book's purpose as the examination of how educational technology can be used to transform education and assist developing countries in closing the knowledge divide. In the Foreword, Sir John Daniel of the Commonwealth of Learning, a Vancouver-based organization that promotes technology as a way to boost educational opportunities in developing countries, commends the editors for bringing together scholarship on the role of educational technology in development. In the introduction to this text, the editors describe how educational technology might be used to transform education and assist developing communities to close the knowledge divide. Chapters have been selected to provide comprehensive coverage of educational technology in development in different professions and parts of world. In addition to their introductory chapter, the editors have assembled twenty-three chapters to provide examples of how education can be provided more flexibly in order to provide access to hitherto disadvantaged communities and individuals.

Marshall, Kinuthia and Taylor's (2009) stance on the importance of educational technology in community development is expressed in the introductory chapter: "efforts to bring about rapid economic and social development are dependent, to a significant degree, on

changes in the outlook and behavior of the people at all levels of an educational system" (p. xxxv). In a definitional text on educational technology, Januszewski and Molenda (2008) emphasize both the importance of "bringing learners into contact with appropriate learning conditions and resources" (p. 142) and the monumental shift in development practice from learning *from* media to learning *with* media (p. 154), which tends to be reflected in the knowledge building and sharing stance taken by Marshall, Kinuthia and Taylor (2009) in this book. The field of educational technology describes the epitome of a successfully integrated learning solution as, "a learner-centered environment in which instructional resources were selected and used efficiently and effectively to support learning activities aimed at deeper understanding and problem solving ability" (p. 156). Many of the case studies describe practices and projects that are building towards the goal of an integrated learning solution and highlight the challenges and successes encountered along the way.

The twenty-three chapters have been contributed to *Bridging the Knowledge Divide: Educational Technology for Development* by an international group of thirty-six authors hailing from higher education institutions and community contexts in Africa, Australia, Brazil, Canada, the Caribbean, India, New Zealand, Switzerland, the United Kingdom, and the United States. Many of the authors either hold or are currently pursuing a PhD, several are medical doctors and most are working on the ground and in the field by providing flexible education to diverse learner populations. The editors have organized the twenty-three chapters into four sections: (i) Flexible Education for Empowerment, (ii) Managing and Communicating Knowledge, (iii) Flexible Delivery in Higher Education, and (iv) Preparing Teachers Using Flexible Approaches.

In the first section of the book, entitled Flexible Education for Empowerment, the editors have assembled five chapters that explore a range of issues in flexible and distributive education as a means of bridging the knowledge divide, empowering groups, and building cohesive communities. Key topics explored by the nine authors include flexible

education delivered through community-access centers for community development, gender equality and the role of distance learning in increasing social and economic opportunities for women, fair and equitable access to ICT and a variety of resources, and work-based learning for civil servants.

In the second section of the book, entitled Managing and Communicating Knowledge, there are six chapters, including a chapter by one of the editors. The key topics in this section explore the broad topic of knowledge management, and then drill down into examining some of the specific technologies that can be used to facilitate flexible or distributed education. Chapter authors have analyzed the use of a range of technologies, from mobile phones to short messaging services to video conferencing, in support of formal learning. Two of the chapters explore the use of open-source software and open educational resources. In response to the question, how open are open educational resources, chapter authors identify the many challenges associated with providing equal access to technological resources. The final chapter in this section highlights the state of copyright in Africa and the impact of policy on flexible education.

The seven chapters in the third section are organized on the topic of Flexible Delivery in Higher Education. The eleven authors in this section on flexible delivery in higher education take us to several campuses, from Uganda, Botswana, Maputo – Moçambique, Samoa, Mozambique, and to the Caribbean, to explore the challenges of operating dual-mode delivery institutions.
Sir John Daniel captures the dual-mode delivery paradox neatly, "In most dual-mode institutions, the distance-learning operation accounts for a large majority of the student body and a majority share of institutional income; yet, university presidents persist in regarding the campus as the core business and distance learning as the ancillary activity" (Marshall, Kinuthia and Taylor, 2009, xi). Authors in this third section document distance education and flexible delivery practices and case studies that stretch back two decades and also surface the challenges that newer

initiatives continue to experience. The final chapter in this section outlines a present initiative that utilizes distance learning for medical training and education in family medicine in the Caribbean.

In the fourth and final section, entitled, Preparing Teachers Using Flexible Approaches, an argument is made that the provision of flexible approaches to education for students is necessarily intertwined with providing the same flexibility in the education of teachers. In five diverse chapters, a common theme about the merits of expanding teacher education to intentionally include blended and online delivery approaches emerges. A case study that spans online teacher education in Canada and China can be read up against a comparison study of two teacher training programs, one campus-based and one online, in Rwanda. The many challenges associated with effective integration of educational technology and flexible approaches to teacher education in Nigeria are outlined in one chapter. A blended approach to the pre-service development of secondary mathematics teachers in the Caribbean can be read in comparison to a study of the use of ICTs in the training of off-site primary school teachers in disadvantaged schools in Brazil.

Overall, I can imagine this useful text being read and valued by several audiences, from researchers and leaders who work in international contexts, to teachers and graduate students on the ground in developing countries who are moving innovative educational practices forward in their communities and institutions of higher education. I agree with the editors' suggestion that this book will appeal to range of leaders, policy developers, researchers, students and community stakeholders who are looking for successful strategies and principles of ICT use in education in developing countries and contexts. That said, the lack of editorial commentary and summary for each of the four sections and for the book as a whole may limit readers from appreciating and mining the full value from each of the individual chapters.

The chapters in each of the four sections are left to stand on their own – when I read an edited volume, I appreciate the editors' view on the key contributions of each chapter and how each chapter relates to the purpose of the book as a whole. I tend to read the introduction and conclusion chapters written by the editors to guide my choice of which chapters to read first and at all, and in making my assessment of the value and contribution of the volume.

I wish the editors had written a concluding chapter for each section. In a brief review or conclusion for each section, Marshall, Kinuthia and Taylor (2009) might have summarized and strengthened the arguments made in each chapter by making more explicit the links between the key findings and challenges identified in each section, and the depth of current research, theory and practice in the field of educational technology itself (Januszewski & Molenda, 2008). For example, many of the case studies cite as a key challenge the struggle over core values, be it the higher education presidents who still regard on campus programs as the core business of the university in spite of the majority of students participating online, or the instructors who undermine efforts to move forward with technology-infused practices for teachers in training. Many of the findings by chapter authors build and extend upon key findings that have emerged in educational technology research over the last decade. "Teachers' and professors' beliefs about their authority and expectations of control are threatened by hardware and software systems that claim to replace some of the functions of the instructor... In this view, teachers' and professors' reluctance to embrace new technologies is note simply resistance to the new but 'a struggle over core values'" (Januszewski & Molenda, 2008, p. 161). The editors might have made more clear the many connections between the present practices and research in each section, and the broader literature in the field of educational technology.

The book ends with the twenty-third chapter in the fourth section. I wish a final chapter had been written by the editors, in which they brought together key themes and findings from each section or with regard to the symbiotic relationship between educational technology and

development overall. Instead, the editors missed a compelling opportunity to highlight the many significant insights and observations that emerged from the best practices and case studies in a powerful conclusion to the book. It would be helpful to access the key findings from each section, especially those that challenged or confirmed current educational technology development theory, practice and research, in a final concluding chapter. As a reader and researcher, I would have appreciated the editors doing this additional spadework to provide insightful recommendations for future research and practice in developing contexts based on the key findings that surfaced from the case studies and program evaluations carried out by chapter authors.

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**About the Reviewer**

Dr. Michele Jacobsen is an Associate Professor in Educational Technology in the Faculty of Education at the University of Calgary. Her research focuses on inquiry-based learning with technology; currently, she is collaborating on an Alberta wide investigation of technology and high school success that involves 24 school jurisdictions. Dr. Jacobsen is also conducting long-term research on one-to-one laptop initiatives

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