FOREWORD

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Exploring pedagogies for diverse learners online: Advances in Research on Teaching edited by Mary Frances Rice represents a collection of research chapters designed to enable more conversation on the teaching of diverse learners in the field of online learning. The growth of online learning for multiple segments including corporate training to higher education and now in K12 settings requires educators to make accommodations for diverse students. Corporate and higher education must serve online students who need accommodations and are diverse, but most of these populations are adults. However, there may be even more at risk when K12 online students are not served well to both the students and society. The collection of chapters in the book provides unique lenses into the issues, challenges, and potential paths forward to serve a growing segment of K12 students.

Currently, much of the effort and energy focus on inclusiveness is on the design of and compliance of educational tools to meet accessibility/accommodations regulations. The authors collectively provide evidence that adherence to regulations does not provide insight for teachers on the best pedagogical practices that may be necessary for diverse online learners. This proposition is supported by scholars like Treviranus (2014), who contends that through personalization, educators will serve students better than if they merely focus on meeting the technology needs of most students. The book chapters highlight pedagogies that focus on the individual to better serve the needs of these diverse online learners. There are many parallels to the traditional classroom as many of the chapters reflect on the successes that occur when students are served as through individual education plans. Those types of educational customizations serve as a challenge for online to personalize learning. The authors and researchers are cautiously optimistic that the many affordances of online learning opportunities will actually

allow for pedagogical customization that will result in learning for these diverse learners.

Collectively, this book highlights the tensions embedded in online learning's obsession with personalization. Pedagogical personalization is often still thought of adaptive learning software where tools containing very granular instruction customize a student path based on the responses of the learner (Jarrett, 2012). However, the underlying themes in the book highlight the need for teachers to be responsible and thoughtful enough to be able to customize pedagogy for students of diverse needs. The teacher driven approach to customization has been widely acknowledged in the classroom, but a major emphasis in online learning has been about providing standardized classrooms where students have access to all the same content, assessments and customization occurs in the discussion and email transactions. The other major emphasis in online courses has been to leverage personalized learning tools that emphasize individual pathways through technology. As a result of this heavy use of tools, teacher interaction becomes more limited. Personalization revisited from the practice of being an educator speaks to how *humans* create *personalized* connections to and relationships for students. There are multiple opportunities for these two themes of personalization through technology and pedagogy to coexist and enhance student learning. The case study research shared throughout the book offer thought provoking practices of the necessity of teacher driven pedagogy in online learning.

SECTION I: PROMISES OF DIGITAL TECHNOLOGY FOR TEACHING AND LEARNING

The first three chapters engage different methodologies to show how the promise of digital technology is only in an exploratory stage. The online learning environment is in many ways an opportunity to visualize student participation and pathways (Duval, 2011). These environments are much more complex and the teacher role has expanded. The roles include instructional design, technologist, teacher, and analyst. In some places, multiple people fill these roles but in others schools only one person does all the work. An often-used quote is from Simon (1991) who said, "Improvement in post-secondary education will require converting teaching from a solo sport to a community-based research activity." This must also hold true for

our K12 teachers as well. For the community to collaborate there is a need to build understanding.

Bullock (2015) explores conceptual models that help frame the transition from the classroom to technology-enabled environments and online learning. Even well-known models leave researchers and educators with questions. His work demonstrates that this exploration must move beyond the practical use of technology. The social relationship of learners to teacher and collaboration with other learners is often forgotten in many conceptual models. The chapter reminds us that a teacher is not interacting with technology alone. As in a traditional classroom, there are relationships. The early higher education framework, Community of Inquiry, is quite clear in its argument that social presence is necessary for online learning to be efficacious (Garrison, Anderson, & Archer, 2000). The validation of the framework through thousands of surveys makes it clear how important this factor is in success, completion, and re-enrollment (Boston et al., 2010).

The sharing and contrasting of models is particularly relevant when considering the needs of diverse students. As the Treviranus (2014) work shows, many technological foundations are result from attempts to design learning based on the predictive analytics for the majority of students. These models, which focus on the larger population of students, neglect the outliers or more diverse students. Instead models that are more focused on relationships and networking would enhance design for all, but particularly for individuals that need technological and pedagogical accommodations. Jennifer Thomas' work as a classroom teacher and researcher makes the case in point while working with marginalized adolescents. This teacher provided instructional guidance based on her relationship to the children and her *understanding of the marginalization* (Thomas, 2015). The case study points to the student outliers who achieve more when the reasons for difficulties are interpreted by an educator with specialized skills.

Thomas (2015) makes one other comment on personalization. Technologies of personalization and adaptive learning are just evolving (Akbulut & Cardak, 2012). A meta-analysis of studies shows that many of the tools attempt to adjust to learner styles informed by multiple educational theorists. Some tools also provide learner control. The juxtaposition of the caring teacher for marginalized students versus the adaptive and intelligent tutoring systems illustrates the chasm that needs to be crossed to bridge tools and educator skills. There are a few similarities: both the technologies and teacher note that students seem to respond with more satisfaction when they gain learner control. Envisioning how the system adjusts beyond gaps in instructional content presents multiple challenges for these

systems. Teaching must move beyond coaching and tutoring and toward adjusting for known skills and using those strengths to propel marginalized students ahead. Thomas seems to do this with ease. The cautions her work gives us are enormous. As the digital systems evolve, they begin to serve more than one teacher alone. The chapter provides the insight into the classroom issues and how far technologies must develop to incorporate these educators' social, content, and relationships skills if we want to serve more students effectively.

The blended learning model for student with disabilities occurring in the North Carolina Virtual Public School's begins to evolve the collaboration necessary for effective teaching (Dikkers, Lewis, & Whiteside, 2015). This co-teaching method builds on the framework of local support and well-designed instruction by experienced virtual content area teachers. The master content model approach gives the local teacher more time to focus on support needed for students with exceptionalities. In North Carolina, those students could be very diverse but the focus in the chapter is the blend with a face-to-face certified special education teacher. By including the local teacher with the knowledge and skills to coach, mentor, and motivate the student with individualized needs, this practice seems to provide guidance and reassurance for students.

Niemiec and Otte, (2009) helped define blended as a pedagogically planned use of online and face-to-face classroom time. There is much research on blended learning, but most of it involves the same teacher or faculty. Multiple studies have shown the effectiveness of blended learning seems better than either face-to-face or online separately (Means, Toyama, Murphy, & Baki, 2013). The combination of technological learning and teaching expertise gets some flesh on it in this research of Dikkers et al. (2015). The changing dimensions of collaboration between two teachers — of which one better understands the student needs — provides insight on how other K12 institutions might adopt blended learning. In removing the content creation obligations from the local teacher, the focus shifts to the needs of the individual student.

SECTION II: REIMAGINING SUPPORT FOR ONLINE LEARNERS

Diverse students like all students exist within networks of other relationships. The vulnerability of these students is more apparent, but there is

already research about online learning students that reviews factors like personal motivation and support systems provided by family, friends, and colleagues (Holder, 2007). The research points to a need for institutions to understand that often without support networks, student motivation plays a more critical role in persistence. The research within this section of the book commences further study on the need to understand these relationships for online K12 and how together, they form fundamental student support systems. Without support mechanisms, these students with very individualized needs might not succeed.

Parental engagement is often considered both a positive and a negative in educational institutions. Ideally, parents provide motivational assistance, coaching, monitoring progress, and a reasonable learning environment. Many factors play a role in whether parents can provide those kinds of support. The lack of this extended student support in traditional education can result in negative impacts on the student's success. Borup and Stevens (2015) make it clear in the literature review that "relatively little is known regarding parental engagement in online learning settings." In sharing the research on traditional settings, parallels can be made as to how parental engagement is at least, if not more, important for all online K12 students and especially more so for those who have diverse needs.

Using five frameworks, the researchers show consistencies supportive parental roles (Borup & Stevens, 2015). The frameworks also make clear there is a larger need to identify common terminology and definitions in discussing parental support. The task falls to researchers to compare and contrast existing terms, but also to then push for common understanding. The ultimate goal is to provide guidance to the student support systems for the diverse learners and this necessitates clear definitions. Similar parallels exist in both technology and analytics. In educational technology, IMS Global leads collaboration of both educational institutions and technology vendors. These collaborations lead to standards that provide guidance to both parties. In educational analytics, the Predictive Analytics Research (PAR) Framework brought together a group of institutions to discuss how to define a common set of data definitions. These have led to an open and common set of data definitions that allow multiple institutions to now agree, share, compare, and learn from each other. Thus, defining parental engagement for all students could lead to better-informed conversations and more support for diverse students.

As further support to speaking a common language, Rice, M. F. (2015) analyzes parental testimonials from online learning vendors to reveal both the motivation of purchasers (parents) and how these decisions help frame

discussions for teachers in leveraging parental support. There is often friction between educational vendors, buyers, and educators. While many educational products are informed and even designed by educators, the vendor often deals directly with the purchaser either student or parent. Instead continuing with a system that produces friction, this work encourages educators to use similar language in advocating for parental engagement. These narratives can be understood by educators in ways that allow them to create stronger connections in the support systems needed for diverse learners.

The recognition that narrative could inform teacher education challenges the traditional researcher hypothesis process often used in educational research. The growth of online learning in all segments is quite compelling. Rice, M. F. (2015) shares that online learning's pervasiveness should be understood and while agreeing problems exist, the discussion should focus more on how to improve current online learning instead of whether it should be used at all for these learners. Enlisting parental engagement through narrative and a common language will support the use of online to achieve better outcomes for students.

The next chapter extends the momentum of building opportunities in K12 online learning for credit recovery students (Lewis, Whiteside, & Dikkers, 2015). At the high-school level, students who have fallen behind for multiple reasons are at-risk of not completing their courses and earning their diploma. Leveraging online learning may be the last opportunity for these students to achieve this goal. Educators face very high stakes in leveraging the technology well to serve these students. The requirements include building stronger support networks for these students and working toward more individualized teacher coaching. As in early chapters, building student teacher relationships online are critical and not always easy. These at-risk students more often seem academically capable but need adequate support to overcome the current circumstance of falling behind in needed credits. Overall the second section of the book supports the earlier chapters by emphasizing the relationships and networks needed by online K12 students.

SECTION III: THINKING ABOUT ONLINE PRACTICE

The third section begins to explore the affordances of online learning to highlight the advantages of many diverse learners. Greenhalgh-Spencer

(2015), Rice, B. (2015), and Rice and Carter (2015) explore in very different approaches how online provides opportunities to employ multiple pedagogies and reach students. Online learning allows students to be directed in powerful ways. When using digital technologies, the world can often seem like it is more connected. Those connections are mapped through stories. Much like mind-mapping exercises show connections to related activities, directing students to think through how local actions impact others is difficult in the classroom. Through design thinking and technology tools, however, students can see how these activities in their local have global reverberations. These examples from Greenhalgh-Spencer provide opportunities to rethink and redesign once that negative impact is understood. Online classrooms like this, with people from different regional areas, backgrounds and thinking, exceed the hard to do in a face-to-face classroom.

Another online challenge remains in building learning relationships that can be transferred from preservice teachers when they are learners to when they are the teacher (Rice, B., 2015). The paradigm shift from learner to teacher has been a challenge for decades. Who has not heard at some point, that faculty members are never taught to teach; that the student only teaches the way they were taught by previous faculty? Online creates a technological distance that presents challenges to the notion that building relationships are necessary to recognize individual needs. Going back to earlier chapters, this notion of what happens well in the face-to-face classroom continues to be a struggle in preparing teachers for the online classroom. How does one build stronger relationships with online students? Leveraging constructs from Dewey and Vygotsky, the author sets up the need to understand learning as social and as happening within a network. For online learning, it becomes more critical to engage social interaction to build relationships. Without these powerful networks, learning is only solitary and only works for the most motivated.

The opportunity to leverage a community of learners and teachers is a benefit of online learning. Pre-service teachers can easily connect to others to ask for strategies and tactics, but building the community of learners requires creating assessments and activities that build those student-to-student relationships that go beyond trading tricks. The digital technologies will continue to evolve and adapt to personalize the experience for each learner, but without webs of relationships all the way through the K12 system, those will not be enough to promote persistence.

The final chapter shares stories that focus on motivational narratives that are shared with other teachers of students with disabilities (Rice & Carter, 2015). These narratives and personal stories motivate teachers and

those that prepare them to consider the ethical implications of instructional methods that will help these vulnerable students be successful. Building connections through this community of online teachers serving diverse students captures best practices within the community. As throughout the book, teachers are encouraged to draw on personal connections to students' circumstances or disabilities. The online learner community connections seem more ephemeral, and so it becomes a higher responsibility for teachers to build those one to one relationships.

The book is a collection of diverse research but the flow clarifies the risk of digital technologies for diverse students. It does not argue against online technologies. Collectively, the chapters offer gaps in online learning and teaching and make suggestions for overcoming those gaps. The acknowledgment that online learning already expands the instructional activities typically available in face-to-face learning, but the research is critical of what is missing in online learning. The criticism is not meant to deter online learning use with diverse students but to request that more researchers tackle the questions of how best to build better pedagogies for online learning.

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